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ABSTRACT

This competency-based education curriculum, developed by firefighters and educators in West Virginia, is designed for use as a resource for the development of improved firefighter training programs. It consists of an introductory note to the instructor and 140 competency sheets. These sheets deal with tasks in the following areas: general information: forcible entry: protective breathing apparatus: first aid: ropes: salvage: fire hoses, nozzles, and appliances: fire streams: ladders: ventilation: inspection: rescue: sprinklers: fire alarm and communications: and the chemistry of fire. The competency sheets generally contain a title and task statement (cross-referenced to the performance objectives in the National Fire Protection Association standards), a listing of necessary tools and equipment, a description of learning steps, resources, suggested learning activities, the required performance standard, and one or more information sheets containing illustrations and/or additional explanatory material. (MN)

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Competency Based Education Curriculum

for

FIREFIGHTER TRAINING

Developed by:

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Bureau of Vocational, Technical and Adult Education
Charleston, West Virginia 25305

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May 1981

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INTRODUCTION

One of the top priorities for Vocational, Technical and Adult Education in West Virginia is to acquire and use valid curricula. When achieved, this priority will assist the state to better respond to the needs of students, local and state educational agencies, business and industry. A major part of our curricular effort is fostered by an organization known as the Vocational-Technical Education Consortium of States (V-TECS).

V-TECS states develop catalogs of performance objectives and performance guides for occupational education that are based on validated tasks. V-TECS is a cooperative research and development venture currently among 15 states plus the Army, Navy and Air Force. Each catalog is developed according to established procedures documented in a Technical Reference Handbook. Strict adherence to these procedures is stressed to assure confidence in the products and to promote transportability of products among the consortium members.

This CBE curriculum was based on a V-TECS catalog developed by firefighters and educators in West Virginia. It is to be used as a resource for the development of improved firefighter training programs. A scientific method was used to identify those tasks which are done by firefighters. This will enable training officers to select tasks for various personnel and design training programs and monitoring devices that will assure that all persons have been trained on tasks deemed necessary by firefighters in West Virginia.

We trust this CBE curriculum will be useful to you.

VOCATIONAL, TECHNICAL AND ADULT EDUCATION
Clarence E. Burdette
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Assistant State Superintendent of Schools

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TRUCK #1	Captain Matthew (Matt) Jackson Earl Doughty, Driver William Peterson, Firefighter
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8

PROGRAM ORGANIZATION: FIREFIGHTER

UNIT 1 - GENERAL

Task 1.1	Be aware of fire department organization
Task 1.2	Be aware of department size, responsibility and operational procedures
Task 1.3	Be aware of department rules and regulations for a firefighter

UNIT 2 - FORCIBLE ENTRY

Task 2.1	Inventory small tools
Task 2.2	Paint small tools
Task 2.3	Use forcible entry techniques to gain entry through a window
Task 2.4	Batter entrance hole using battering ram
Task 2.5	Cut metal door using oxyacelytene torch
Task 2.6	Cut metal door using air chisel
Task 2.7	Open door using door opener
Task 2.8	Open door using various tools
Task 2.9	Cut out wall section using rescue saw
Task 2.10	Separate steel bars using port-a-power
Task 2.11	Open jammed car door using jaws-of-life

UNIT 3 - PROTECTIVE BREATHING APPARATUS

Task 3.1	Don protective clothing
Task 3.2	Don the breathing apparatus
Task 3.3	Take necessary actions upon activation of the low-air warning device on the breathing apparatus
Task 3.4.	Fill resuscitator cylinders
Task 3.5	Test self-contained breathing apparatus (air type)

UNIT 4 - FIRST AID

Task 4.1	Perform primary examination
Task 4.2	Perform C.P.R

NOTE: Additional tasks to be handled by local departments

UNIT 5 - ROPES

Task 5.1	Identify knots and describe their purpose
Task 5.2	Fasten rope around post using hitch method
Task 5.3	Fasten one rope to another using Beckett bend method
Task 5.4	Coil and throw a rope
Task 5.5	Remove strain from coupling on hanging hoses using running bowline
Task 5.6	Hoist charged line, pole, extinguisher and ladder to height of at least 20 feet
Task 5.7	Inspect, clean and maintain rope
Task 5.8	Pull down damaged walls and rafters using rope

UNIT 6 - SALVAGE

Task 6.1	Execute one-person and two-person throw - salvage cover
Task 6.2	Remove and protect valuable items from area
Task 6.3	Construct temporary water chute
Task 6.4	Construct temporary water chute for window drain and stairway drain
Task 6.5	Remove salvage covers
Task 6.6	Throw runner to protect floor
Task 6.7	Cover and block all hazardous areas
Task 6.8	Remove water using water vacuum
Task 6.9	Stack furniture

UNIT 7 - FIRE HOSE, NOZZLES, APPLIANCES

Task 7.1	Identify sizes and types of hose
Task 7.2	Be familiar with types of fire hose couplings and how they work
Task 7.3	Advance dry line up ladder
Task 7.4	Advance charged line up a ladder
Task 7.5	Anchor nozzle for charged line using rope hose tool
Task 7.6	Be familiar with care for fire hose couplings
Task 7.7	Attach nozzle to hose
Task 7.8	Perform pressure test for hose
Task 7.9	Connect hose to hydrant and open hydrant
Task 7.10	Apply chafing block to hose
Task 7.11	Construct flat load
Task 7.12	Load horseshoe or "U" load
Task 7.13	Construct combination load
Task 7.14	Construct accordion and/or accordion divide load
Task 7.15	Fold accordion fold
Task 7.16	Construct single donut roll
Task 7.17	Construct twin donut roll
Task 7.18	Construct self-locking hose roll
Task 7.19	Carry hose - one person carry
Task 7.20	Carry hose, using hose strap
Task 7.21	Couple hose (two person)
Task 7.22	Couple hose between feet
Task 7.23	Couple hose by coupling tilt
Task 7.24	Couple hose foldover
Task 7.25	Couple hose hand to hand

UNIT 7 - FIRE HOSE, NOZZLES, APPLIANCES (Continued)

Task 7.26	Replace hose coupling (expansion ring-type)
Task 7.27	Use hose jacket ot cover rupture on coupling
Task 7.28	Lay line from hose truck forward or reverse
Task 7.29	Lay short line hand straight-away
Task 7.30	Perform line strap while charged
Task 7.31	Name the working parts of a typical pumper and trace the flow of water through it
Task 7.32	Name and explain the functions of the various types of pumps used in fire squad
Task 7.33	Flow test fire hydrant visually
Task 7.34	Fasten rope hose tools as life belt
Task 7.35	Back flush pumper

UNIT 8 - FIRE STREAMS

Task 8.1	Define fire streams
Task 8.2	Define water hammer
Task 8.3	Fight fire using water in spray form
Task 8.4	Prime firefighter pump
Task 8.5	Extinguish fire below the level of the firefighter using rotary nozzle
Task 8.6	Confine fire in smallest possible area using water curtain
Task 8.7	Set up and operate deluge gun
Task 8.8	Fill tanker with water

UNIT 9 - LADDERS

Task 9.1	Load and unfold ladders
Task 9.2	Perform one-person ladder carry
Task 9.3	Perform vertical carry

UNIT 9 - LADDERS (Continued)

Task 9.4	Perform six-person ladder carry
Task 9.5	Place attic or folding ladder
Task 9.6	Raise extension ladder using two-person beam raise
Task 9.7	Perform three-person flat raise
Task 9.8	Place extension ladder and extend fly
Task 9.9	Raise Bangor ladder parallel to building
Task 9.10	Raise Bangor ladder using four-person raise
Task 9.11	Carry roof ladder up extension ladder
Task 9.12	Place ladder hooks on ridge pole
Task 9.13	Fasten end to end splice
Task 9.14	Fasten ladder in at tip over parapet, through window or on fire escape using hose strap
Task 9.15	Fasten uncharged line on ladder using hose strap
Task 9.16	Fasten rope hose tool as life belt
Task 9.17	Free both arms by performing leg lock while on ladder
Task 9.18	Slide victim down ladder across arms
Task 9.19	Clean ladders
Task 9.20	Become familiar with aerial ladders by assisting to spot and place apparatus

UNIT 10 - VENTILATION

Task 10.1	Define ventilation and list results
Task 10.2	Define and explain backdraft
Task 10.3	List the dangers present when ventilating and explain the precautions to take
Task 10.4	Ventilate fire, mechanical (forced)

UNIT 10 - VENTILATION (Continued)

Task 10.5	Ventilate fire, natural horizontal/vertical
Task 10.6	Open double hung windows
Task 10.7	Open factory type windows
Task 10.8	Ventilate by opening a roof and floor using the fire axe

UNIT 11 - INSPECTION

Task 11.1	List common causes of fires in buildings
Task 11.2	List preventive measures for the common causes of fires
Task 11.3	Inspect hospitals for fire hazards
Task 11.4	Inspect dry cleaning plant
Task 11.5	Inspect schools for fire hazards
Task 11.6	Conduct fire drills in schools and public institutions
Task 11.7	Prepare and give address to public group
Task 11.8	Show fire prevention movies

UNIT 12 - RESCUE

Task 12.1	Remove victim from charged wires
Task 12.2	Perform rescue using firefighter carry
Task 12.3	Evacuate person using stokes basket
Task 12.4	Rescue person carrying astride back
Task 12.5	Rescue small, uninjured person carrying in arms
Task 12.6	Rescue large, injured victim carrying in arms (3 persons)
Task 12.7	Rescue person using back strap method
Task 12.8	Rescue person using chair carry
Task 12.9	Rescue person using clothes drag method

UNIT 12 - RESCUE (Continued)

Task 12.10	Rescue person using two-person seat carry
Task 12.11	Rescue person using blanket drag
Task 12.12	Rappel two-story building using life belt
Task 12.13	Maneuver aerial hydraulic apparatus
Task 12.14	Coil and throw a rope

UNIT 13 - SPRINKLERS

Task 13.1	Describe the purpose and operation of an automatic sprinkler system and explain how the automatic sprinkler head opens and releases water
Task 13.2	Identify the fire department sprinkler connection and water motor alarm, connect apparatus to sprinkler system, and effect a temporary stop of water flow

UNIT 14 - FIRE ALARM AND COMMUNICATIONS

Task 14.1	Receive emergency information from a caller
Task 14.2	Transmit and receive with radio using 10-dash system
Task 14.3	Reset fire alarm
Task 14.4	Identify location of alarm from an ACT readout
Task 14.5	Receive and send communications by two-way radio

UNIT 15 - SAFETY

NOTE: Not included; to be handled by local departments

UNIT 16 - FIRE BEHAVIOR

Task 16.1	Describe the characteristics of combustion and its direct relationship to proper extinguishment
Task 16.2	Describe the explosive properties of flammable gases, liquids and dust

NOTES TO THE INSTRUCTOR

PURPOSE:

This manual has been prepared to assist you in implementing competency based training for firefighting. The material included in this manual and the individual competency sheets should be used by a skilled instructor. These materials have been developed and compiled so that instructors may adapt any or all of its contents to accommodate differing teaching styles.

The overriding purpose of these CBE materials is to provide instructors and advisory committees with a set of specific job tasks, steps needed to perform the tasks, evaluation standards, resources suggestions, and some training activities.

The job tasks and their accompanying standards, on which these materials are based, are from the National Fire Protection Association (NFPA) Series 1001. When this curriculum is implemented, it will address and meet the standards and requirements for Firefighter I and a selected number of Firefighter II standards.

These materials have been designed and presented so that the instructor may use them to assist in the design of their own lesson plans, or be used by students under proper supervision.

Since no two instructors employ the same teaching techniques and methods it is suggested that instructors review these materials (specifically learning activities) and adapt them to reflect their own tried and proven methods.

The Firefighter competency sheets (manual) are composed of 14 units which contain the information needed to conduct a program addressing the specified subject area or skill. Each unit and/or competency sheet can be used by itself or in concert with other units and/or competency sheets.

Each competency sheet generally contains the following components:
**UNIT; a title that is cross referenced to NFPA 1001.
**TASK; a task statement (competency) that is cross referenced to the UNITS and the performance objective in NFPA 1001. Each task statement has been written using behavioral type words that describe the required actions. These task statements have been reviewed and edited to meet the standards of clarity, conciseness, revelency, and completeness. In meeting these standards each task statement clearly communicates the required performance.
**TOOLS and EQUIPMENT; all necessary tools and equipment are listed. These items are generally required to perform the task as it is stated, and are drawn from a complete listing as found in the appendix of this manual.
**LEARNING STEPS; In the analysis of each specific job task the actual steps of performance were described. The included learning steps have been developed from these listed descriptions, with the addition of key points where critically necessary.

**RESOURCES; Since the actual instruction and use of these materials will vary across the state, resources in the form of references are listed. In order for the learner to complete various learning activities it has been necessary to reference certain available texts. An effort has been made to provide as few textbook resources as necessary. In addition you will find various personnel listed under resources. These people are a key to the aquisition of the specialized skills and knowledge, and are a critical part of the training.

**LEARNING ACTIVITIES; Learning activities are suggestions on how to present information and involve the learners in the actual learning process. Since the implementation of this training may be carried out in differing environments these activities have been selected to meet minimum requirements for learner acquisition of skills and knowledge. Innovative instructors will want to modify and add additional activities based on their specific situation.

**EVALUATION; The evaluation is actually the required performance objective for each task (competency). They are written in behavioral terms so they can be evaluated with either thorough observation of student activities or through results obtained under specified conditions.

**INFORMATION SHEET(S); For some task (competency) sheets one or more information sheets are included. These information sheets generally contain illustrations and additional material intended to clarify the required performance as detailed under the learning steps and evaluation (performance objectives).

In certain phases of firefighter training, there are many different procedures, tools, and equipment that are in use. When the class of recruits is made up of personnel from many different fire departments, the instructor will have to instruct to many of these different procedures and methods - or - may teach the general principles he/she must teach so that transfer will occur. This means that when the recruit arrives at the fire house he/she will be able to apply these principles to any specialized procedure or tool that the specific department may utilize. If the class is made up of recruits from one department where the specialized procedures and tools are known the instructor may customize the instruction to the specific known needs. The following is an example from the unit on forcible entry.

UNIT 2 - FORCIBLE ENTRY

The techniques of forcible entry are many and the tools that may be used are varied. Each fire department may have a full complement of these common and specialized tools. However, it is important that the instructor know which tools the specific fire department has, so that the instruction will focus on the tools that the firefighter will be using. There are basically three general areas of learning required for effective forcible entry performance.

1. Reasons for forcible entry
2. Correct techniques of tools and equipment usage
3. Determining when and where to make entry

Under normal conditions, the firefighter I will be working under the direct supervision of a full experienced firefighter II or III.

In this working relationship, the fully experienced firefighter will be making the actual decisions on when and where to enter. In these situations the firefighter I will follow the directions and obtain the correct equipment and tools and make the entry. For this reason it is critical that the recruit be fully trained on the proper and safe procedures of tool and equipment use.

Common entry tools:

- firefighter axe
- door opener
- battering ram
- bolt cutters
- ladders
- rescue saw
- sledge
- hatchets
- pry bars
- cutting torch
- pike poles

QUALITIES OF A GOOD INSTRUCTOR

Desire to instruct

In order to be the most effective in your position as an instructor you must want to instruct. It is universally accepted that an individual does a better job when they have the internal motivation (desire) to do the job.

Knowledge of your subject

An instructor cannot teach what they do not know well. Without this recognized subject matter expertise the instructor cannot gain the respect of the learners nor effectively guide them to mastery of the subject or skill being taught.

QUALITIES OF A GOOD INSTRUCTOR (Continued)

Ability to teach

Good instructors succeed primarily through study and hard work. A good instructor knows which teaching methods to use and will use them at the appropriate time.

Attitude

Your feelings toward what you are doing will affect your instruction, and in turn will affect your students.

Sensitivity

A good instructor is sensitive to the constant changes in attitudes and behavior of their students. With this sensitivity the instructor can keep aware of problems that students may be having that affect their learning.

Enthusiasm

Enthusiasm is catching. When an instructor is enthusiastic about their work the more likely the students are to be enthusiastic. Your enthusiasm is shown by voice quality, facial expressions, and in your general bearing and outlook.

Communicative ability

It is not enough for you to know your subject and be a master at performing the skills of your subject. You must be able to get what you know and can perform across to your students. You must "get down where the students are" at the start of each lesson and lead them toward the knowledge and skill mastery.

QUALITIES OF A GOOD INSTRUCTOR (Continued)

Tact

Tact is the ability to deal with others without giving offense. The instructor who is tactful can get along with others because he/she builds a feeling of mutual confidence and understanding. You must be tactful to be successful as an instructor.

Patience

A good instructor must be patient - all things cannot get done at once, and not all learners will learn at the same rate. Learning is sometimes slow and difficult.

Friendliness

Friendly people are generally well liked and others are interested in them. It is human nature for us to want them to succeed and we sympathize with them when they experience difficulties. This is a good attitude that instructors should take toward their classes. This does not mean that you should be overly friendly. A good instructor is friendly without being over-familiar. Your students should feel that you are interested in them and that you will gladly give them help.

Appearance

You appearance gives the student their first and quite often their lasting impression of you. You should always be an example of neatness and cleanliness.

QUALITIES OF A GOOD INSTRUCTOR (Continued)

Courtesy

Courtesy is the mark of a person who treats others politely and with consideration. You should be just as courteous as you expect your students to be. The courteous instructor usually has a courteous class.

Sincerity

Sincerity is a quality that all good instructors must have. Sincerity is defined as "honesty of mind or intention." A person who is not sincere will look for shortcuts even to the point of compromising honesty.

RESPONSIBILITIES OF THE INSTRUCTOR

To the students:

You should keep the training program student-centered. You must learn each student's needs and be ready to adapt to these needs. You must motivate the students with well planned assignments, presentations, and consistent assessment of their performance.

To him/herself:

You must maintain a professional attitude towards your work. You should continually develop your leadership ability and effectiveness.

THE LEARNING PROCESS

What is learning?

For its most basic sense, learning is a change in behavior. A behavior is changed when a person feels a need to change it or to acquire it. Therefore, to teach effectively you must develop the

THE LEARNING PROCESS (Continued)

need for a student to change. This is done by using performance objectives, goals, problems to solve, or questions. When learning is thought of as a change in or the acquisition of behavior you must be ready to measure these behaviors. Learning is more than knowing something. Learning must be functional and students must be able to use what they learn to solve potential problems.

Learning outcomes

When behaviors are changed or new ones are acquired we can define them as mental skills, physical skills, and attitudes.

Principles of learning:

1.	Readiness:	Learning is most effective when the student is ready to learn. The student must be motivated, attentive and feel a need for the learning.
2.	Active Responding:	A person learns by responding. This response may be either covert or overt. Covert responses are not observible and therefore difficult to measure. Overt responses may be seen and measured. Therefore, if you want to be sure the student has learned something you must plan for the student to make an overt response so that you can measure it. To facilitate this you should design the learning environment to bring about these appropriate responses.

THE LEARNING PROCESS (Continued)

3. Feedback: You should continually provide the students with information on how well they are doing. This is extremely important, because during actual practice the students will require this "feedback" so he/she can adjust their performance in a correct manner.

INSTRUCTIONAL OBJECTIVES

Previously learning was defined as a change in behavior or the acquisition of a new behavior. It was further stated that this behavior change or acquisition of a new behavior resulted from actions in response to needs, and that the effective instructor must develop the need for the student to change. Instructors can develop this need by using performance objectives, goals, problems or questions. It was also explained that the instructor must plan for some kind of measurable change in his/her students.

Competency based instruction is based on required competencies that have been stated in the form of instructional objectives. These instructional or performance objectives can be defined as "an intent communicated by a statement describing the proposed change in a learner - a statement of what the learner is to be like when they have successfully completed a learning experience." These objectives include the operations each student must perform and/or the knowledges he/her must acquire to satisfy the job requirements.

INSTRUCTIONAL OBJECTIVES (Continued)

These objectives must have three features; the desired student behavior must be: valid, observable, and measurable. They include the performance behavior, conditions of performance, and a standard.

The training sheets in these materials are designed around specific performance objectives. These performance objectives have been modified and built into each of the training sheets. They can be found when looking at the evaluation parts of each training sheet.

The use of these performance objectives is best explained and illustrated in the following model that illustrates competency based instruction:

STATE THE OBJECTIVE	TEACH THE OBJECTIVE	TEST THE OBJECTIVE

The use of performance objectives and competency based instruction save both the instructor's and the student's:

- time
- effort
- resources

Competency based instruction also:

- improves the quality of performance
- leads students to a feeling of success
- provides for fair and equal evaluation
- identifies specific learning gaps

LESSON PLANNING

You will notice that on each firefighter training sheet there is a section title "Learning Activities." Under this section there is almost always an instructor lesson noted. All students are expected to participate in these lessons. If your students are to learn in an effective and efficient manner the content of these lessons must be presented clearly and accurately. The firefighter training sheets are not intended to be lesson plans, but what is contained on the sheets will be utilized in a well planned lesson. Therefore, the first step for you is to implement this curriculum design to your specific lesson plans. You must organize your thought and materials so that you may present them in a clean and effective way.

A lesson plan is a guide for teaching. The plan usually contains a list of objectives, teaching steps, and other information needed by the instructor and learner. The lesson plan (and its content) must be sufficient for the attainment of the objective(s).

Steps in planning the lesson

The development of a lesson involves four basic steps: determining the lesson objectives, conducting he necessary research, organizing the content, selecting teaching methods and instructional aids.

Determine lesson objective(s)

Every lesson must have at least one objective. One method of determining the objectives is to look at the firefighter training sheet. Each training sheet has been designed around one task.

LESSON PLANNING (Continued)

Under the Evaluation section you will find the objective for the specific task. This objective will serve as the overall or task objective. It too will serve as your basic lesson objective. However, you will want to ask yourself some questions in order to determine any sub-objectives or enabling objectives that are necessary. The question you should ask is: "What else must the learner be able to do or what must the learner know in order to accomplish this task objective as it is stated?" The answer to this question will identify these other skills and knowledge. Once they are identified you may state them as objectives.

Conduct research

Once you have identified each objective you must determine what information, subject matter or content, is required to lead the students to the attainment of the objectives. Start with your own general knowledge and then fill in any gaps from text material. The basic teaching steps are to be found on the training sheets under the title "learning steps." These learning steps may form your outline of content organization.

Organize subject matter

The first two steps determine the "what" of your instruction. These last two will determine the "how." You must organize the content (subject matter) into a sequence that when presented will lead your students from one point to the next. The objectives serve as a starting point, and your content should be organized

LESSON PLANNING (Continued)

from the simple to complex or from the familiar to the new. Using the learning steps as an "outline framework," and "hang" the content to them.

Select methods and instructional aids

The teaching method that you use should be taken into account, and the instructional aids selected to match both the lesson and your teaching method. When considering your teaching method, the aids, and the required lesson content, remember that your goal is to provide maximum student involvement.

LESSON PLAN FORMAT

There are many lesson plan formats, but the 4-step plan is the one most widely used. The 4-step lesson plan is made up of the following steps:

1. Preparation
2. Presentation
3. Application
4. Evaluation

Step 1 - Preparation

The first step, preparation, is the most critical point in the lesson presentation. It is during this step that the instructor gets the students ready for the learning. You must "set the stage for learning." Material that may be covered in this first step

LESSON PLAN FORMAT (Continued)

are items dealing with getting the students attention, items for review, motivation, and lesson overview.

**attention: appropriate analogies, personal experiences, and/or anecdotes

**review. review what the student should already know concerning the new material

**motivation: stress reasons why students must know the material

**overview: using the "whole-part-whole" approach go over the objectives and how you and the students will attain them. Tell the students how they will be evaluated.

Step 2 - Presentation

This is the "heart" of the lesson. The presentation step is where you present the "what" and the "how." This is where you present the content that you have researched. The content may be knowledge presented in a lecture or skills presented in a demonstration.

Step 3 - Application

Have the students perform the task or complete exercises as a means of applying the context (subject matter taught). You will find these type of applications listed on each training sheet under the title "learning activities."

LESSON PLAN FORMAT (Continued)

Step 4 - Evaluation

This final step provides for your determination of the effectiveness of your instruction and the student learning. Evaluation focuses on oral, written, and/or practical performance checks. At the end of a lesson and student practice the students should be able to accurately complete the task as it is stated and further defined under the evaluation part of the training sheet.

FIREFIGHTER TRAINING SHEET

UNIT: General

TASK 1-1: Be aware of fire department organization

NFPA: 3-1.1 THE FIREFIGHTER SHALL DEMONSTRATE A KNOWLEDGE OF THE ORGANIZATION OF THE FIRE DEPARTMENT.

RESOURCES:

Information Sheets

Knowledgeable firefighter

Departmental organization chart

Basic Firemen's Training Course, University of Maryland, 1969

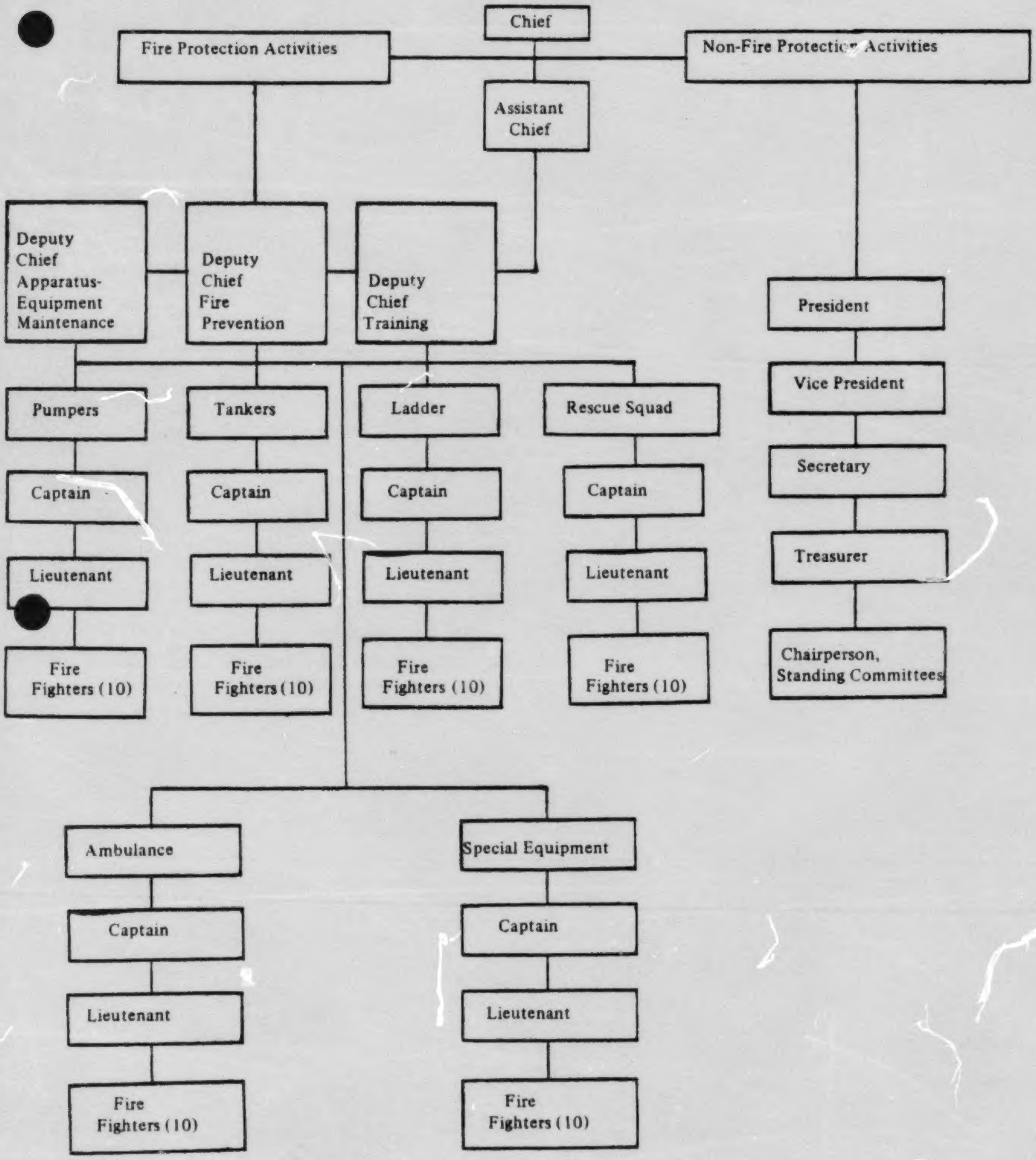
LEARNING ACTIVITIES:

1. Look over the Information Sheets for suggested fire department organization in Wisconsin and review chapter one of the Basic Firemen's Training Course.
2. Check with the chief officer or training officer and discuss the organization chart for your department.
3. Using the organization chart and information on your department become familiar with the chain-of-command from your perspective.
4. Review with a knowledgible firefighter what the various ranks and positions are and what responsibilities they have. Realistically, decide what rank and position you want to work toward.

EVALUATION:

Be able to describe your fire department organizational chart, the responsibilities of each level and your own aspirations.

ORGANIZATIONAL CHART


Chief
Fire Protection Activities
Non-Fire Protection Activities
Assistant Chief
Deputy Chief Apparatus-Equipment Maintenance
Deputy Chief Fire Prevention
Deputy Chief Training
President
Vice President
Secretary
Treasurer
Chairperson, Standing Committees
Pumpers
Tankers
Ladder
Rescue Squad
Captain
Lieutenant
Fire Fighters (10)
Ambulance
Special Equipment

Taken from Your Fire Department, prepared for the Wisconsin Fire Service Training by Paul F. Pribyl, 1978.

FIREFIGHTER TRAINING SHEET

UNIT: General

TASK 1-2: Be aware of department size, responsibility and operational procedures

NFPA: 3-1.2 THE FIREFIGHTER SHALL DEMONSTRATE KNOWLEDGE AS TO THE SIZE OF THE FIRE DEPARTMENT, THE SCOPE OF ITS OPERATION, AND THE STANDARD OPERATIONAL PROCEDURES.

RESOURCES:

Local department literature

Knowledgeable firefighters

LEARNING ACTIVITIES:

1. Each fire department usually has written Information Sheets or manuals describing the size, responsibility and operational procedures. Request these materials and review them carefully.
2. Discuss the size, responsibility and operational procedures of your department with other members of your department.
3. During one month, keep a record of operational procedures which are performed while you are on duty.
4. Take notes from conversations and written materials on what the responsibilities are for your position and writeup a description of your responsibilities on the job.

EVALUATION:

Be able to explain in detail the size, responsibility and operational procedures of your department.

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FIREFIGHTER TRAINING SHEET

UNIT: General

TASK 1-3: Be aware of departmental rules and regulations for a firefighter

NFPA: 3-1.3 THE FIREFIGHTER SHALL DEMONSTRATE KNOWLEDGE OF THE FIRE DEPARTMENT RULES AND REGULATIONS THAT APPLY TO THE POSITION OF FIREFIGHTER.

RESOURCES:

Local department literature

Knowledgeable firefighters

LEARNING ACTIVITIES:

1. Request a copy of your department's rules and regulations for a firefighter and review them.
2. Talk with other firefighters about your department's rules and regulations and ask questions about anything that is unclear.

EVALUATION:

Know the rules and regulations of your department well enough to explain any part of them to another firefighter.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-1: Inventory and maintain tools

NFPA: 3-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF PROPERLY CLEANING, MAINTAINING, AND INSPECTING EACH TYPE OF FORCIBLE ENTRY TOOL AND EQUIPMENT.

TOOLS AND EQUIPMENT:

1. Inventory list of tools
2. All small tools
3. Clip board

LEARNING STEPS:

1. Obtain inventory list.
2. Open compartment.
3. Check tools against inventory.
4. Inspect each tool.
5. Clean and maintain each tool.

RESOURCES:

Ohio Fire Service Training Manual, 1980

IFSTA 101: Forcible Entry, 6th edition

LEARNING ACTIVITIES:

1. Review applicable sections in the Ohio Fire Service Training Manual and IFSTA 101.
2. Report to chief officer and obtain inventory sheets and instructions for inventorying and maintenance of tools.
3. Inventory tools enough to learn the process.
4. Carefully check each tool for dirt, wear and damage.
5. Clean each tool and make recommendations for repairing damaged tools.

FIREFIGHTER TRAINING SHEET

TASK 2-1 (Continued):

EVALUATION:

Given company inventory of tools, inventory and maintain tools.

1. All tools must be reported as present or missing, cleaned and either verified in good repair or recommended for repair.
2. Supervisor's follow-up inspection must match report.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-2: Paint small tools

NFPA: 3-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF PROPERLY CLEANING, MAINTAINING, AND INSPECTING EACH TYPE OF FORCIBLE ENTRY TOOL AND EQUIPMENT.

TOOLS AND EQUIPMENT:

1. Paint Brushes
2. Masking tape
3. Cloths
4. Drop cloth
5. Paint
6. Paint thinner
7. Mixing paddle
8. Mixing bucket

LEARNING STEPS:

1. Clean tools thoroughly.
2. Scrape loose paint.
3. Mask tool.
4. Paint tool.
5. Hang to dry.
6. Remove masking tape.

RESOURCES:

Chief Officer

Ohio Fire Service Training, 1980

LEARNING ACTIVITIES:

1. Read page 205 in Ohio Fire Service Training.
2. Attend demonstration of tool painting by designated officer.
3. Read Information Sheet 2-2 and study the above learning steps.

FIREFIGHTER TRAINING SHEET

TASK 2-2 (Continued):

EVALUATION:

Given a particular unit with tools in need of paint, paint small tools.

1. Color on tools must match code tag for particular unit.
2. There can be no runs, no dust, or chips in paint.
3. Cutting edges or moving parts must not have paint on them.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-3: Use forcible entry tools and techniques to gain entry through a window

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Pike pole
2. Fireman's ax
3. Door opener

LEARNING STEPS:

1. Check to see if window is open.

2. Check lock type.

3. Place prying device in center of lower sill and pry downward.

4. When lock breaks, raise window.

CAUTION: Use eye protection.

RESOURCES:

IFSTA 101: Forcible Entry

Basic Firemen's Training Course, University of Maryland

LEARNING ACTIVITIES:

1. Go to a hardware store or lumber yard and study the different types of windows.

2. List the various latches (locks) and list likely places where latches and locks might be fastened.

FIREFIGHTER TRAINING SHEET

TASK 2-3 (Continued):

LEARNING ACTIVITIES (Continued):

3. Visit two schools, one apartment and a hospital and list the lock and fastener types.
4. In a seminar group, discuss the different types of locks and what tools may be used to unlock or brake the locks.
5. Review Chapter three of IFSTA 101 and/or Chapter five in the Maryland course.
6. Study the drawings in the handout.
7. Watch a demonstration of forcible techniques to gain entry through a window.
8. Visit the site of an old abandoned building or build suitable mockups and practice forcible entry techniques through a window.

EVALUATION:

Given double window and proper equipment, open window by prying upward. Entry must be gained without destroying sash.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-3-1

1. Opening check-rail windows. Normally, pry open the windows at the center of the window frame (fig. 1). If the locking device is located along the side of the frame, however, pry directly beneath the device so that it may be easily sprung.

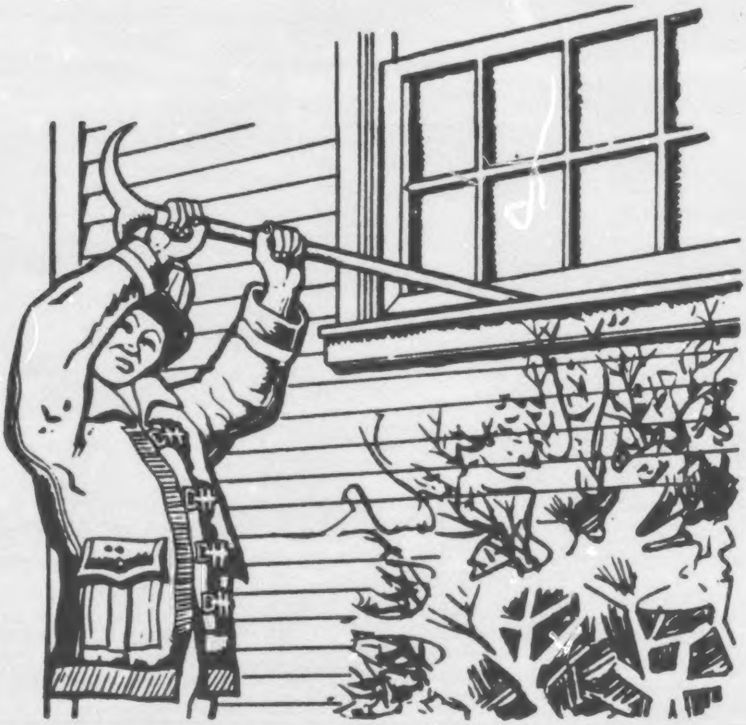


Figure 1. Opening check-rail windows.

2. Opening the basement windows. Pry open at the center of the lower rail by inserting the ax blade or door opener below the lock and applying pressure to allow the bolt to pass the keeper.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-3-2

3. Opening upper windows (used to provide cross-ventilation).
   a. Lie down on the roof or lean out of a window directly above the window to be opened.
   b. Apply the point, or hook, of the pike pole to the upper portion of the window and push downward (fig. 2).

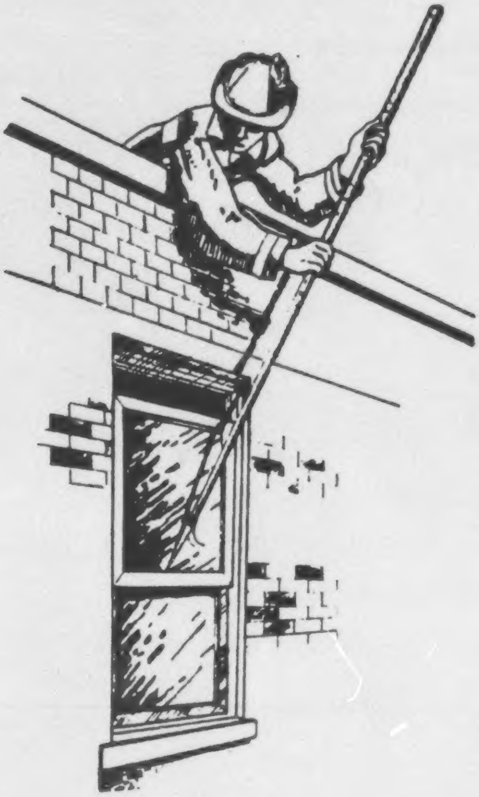


Figure 2. Using pike pole to open a window from above.

4. Opening casement sashes. Pry between the windows until the bolt clears the keeper. (Any wooden molding covering the opening may have to be removed prior to inserting the ax or door opener.)

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-3-3

5. Breaking glass.

Note: For the sake of speed and, in some cases, to limit damage, breaking of the glass may be required to achieve forcible entry.

a. Using the flat side of the ax, and standing to the side of the window, strike the upper portion of the window, strike the upper portion of the pane first (fig. 3). (Ensure that broken glass does not slide down the handle.)

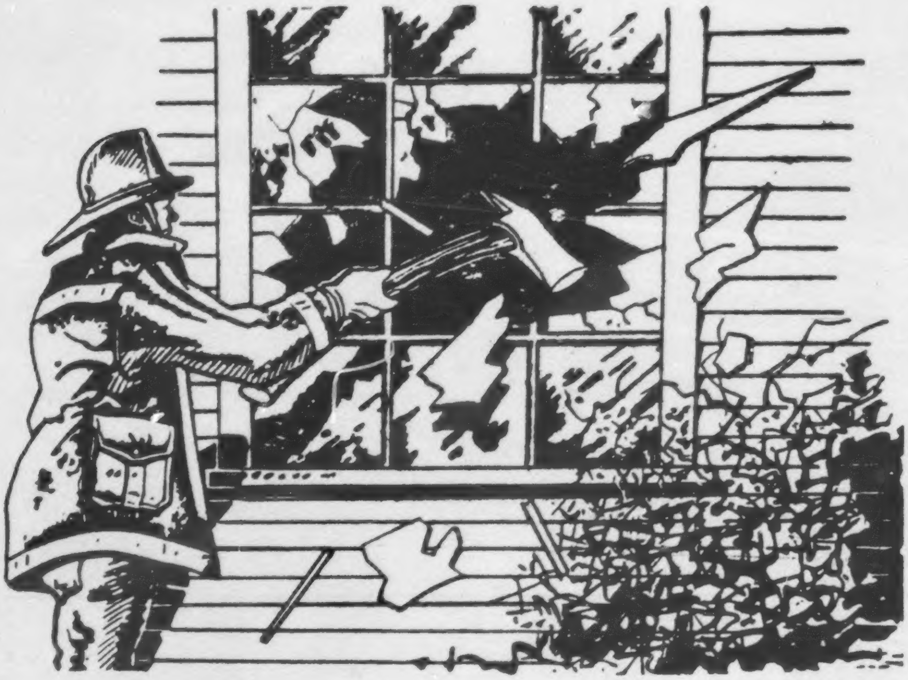


Figure 3. Breaking glass with an ax.

b. Remove all jagged pieces from the sash to prevent injury to personnel and damage to equipment.

c. Unlock the window, if possible, and open to enable entry.

Note: When forcible entry is conducted into a burning structure there always exists the danger of back draft explosion. All precautions (such as limiting body exposure in front of the window as it is being opened) must be taken to prevent possible injury.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-4: Batter entrance hole using battering ram

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Battering ram
2. Heavy gloves
3. Face protector
4. Turnout gear

LEARNING STEPS:

1. Locate point for entry and position ram.

2. Using two or four persons, batter hole.

3. Use smooth even strokes.

4. Use ax to trim sharp objects.

CAUTIONS: Use eye protection. Do not grasp front bar or step on ram. Check for stability after breaching.

NOTE: Battering entrances is very dangerous. Persons powering the ram can be cut by shards of glass or splinters of wood. It is necessary, therefore, that all safety precautions be taken. The ram shown here is devoid of a front hand guard. The persons powering the ram can receive severe damage when the ram head breaks through suddenly leaving the hands to receive the shock. Some departments have welded front hand guards to the ram.

FIREFIGHTER TRAINING SHEET

TASK 2-4 (Continued):

LEARNING ACTIVITIES:

1. With the help of a qualified firefighter, become familiar with the process and safety of using a battering ram.
2. Study the illustration.
3. Select suitable site at old abandoned building or construct a suitable mockup.
4. Secure battering ram and equipment and practice.

EVALUATION:

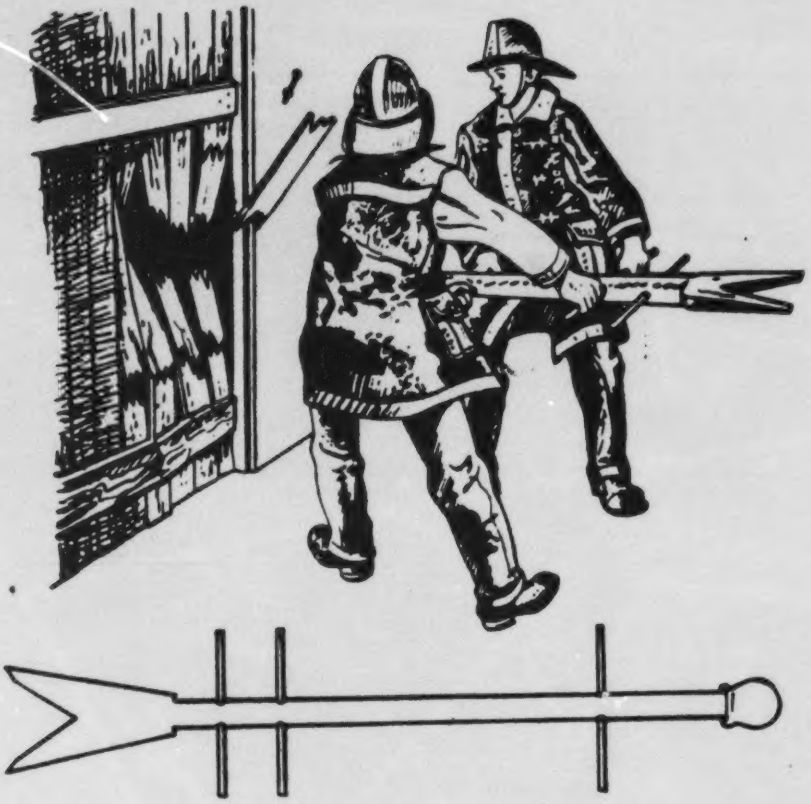
Given battering ram, full turnout gear and structure to be breached, batter entrance hole.

1. Hole must be of sufficient size to permit desired evolution to be performed.
2. There can be no sharp objects remaining which might cut hose or injure personnel.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-4-1



Battering ram.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-5: Cut metal door using oxyacetylene torch

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Oxyacetylene outfit

LEARNING STEPS:

1. Determine if door can be opened without cutting.
2. Gather tools.
3. Select cutting area.
4. Set up torch and tanks.

   CAUTIONS: Area must be cleared of combustibles.
   Charge line must be available.

5. Light and adjust torch.
6. Cut hole in designated area.
7. Open door.

   NOTE: Occasionally doors are constructed of sheet metal fastened to a steel frame of angle iron. Often, these doors are locked by welding a piece of steel pipe to the door so that the lock is inside the pipe. These devices should be studied to determine the best way to open them.

FIREFIGHTER TRAINING SHEET

TASK 2-5 (Continued):

LEARNING ACTIVITIES:

1. Study your territory for special steel locking devices. It does no harm to ask an owner to permit you to examine their door locking devices. They may suggest a quick way to open it.
2. Watch a demonstration of how to cut a metal door using an oxyacetylene torch.
3. Secure some sheet metal and use the above learning steps to practice cutting it with an oxyacetylene torch.
4. Be able to explain how to gain entry through a metal door using an oxyacetylene torch.

EVALUATION:

Given metal door blocking entry or exit, cut metal door using oxyacetylene torch. Door must be free from jamb in four cuts or less.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-6: Cut metal door using air chisel

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Air chisel and hose
2. Safety gear

LEARNING STEPS:

1. Determine if door is unlocked.

2. Gather tools.

3. Cut around lock or hinges.

4. Open door.

NOTE: This task is to be taught and practiced as a part of the door opening. Please keep in mind that it helps greatly to survey your territory and examine the doors found there. Some doors are covered with sheet metal, usually tin. Again some doors may be made of sheet tin rivited to a steel frame. In this case, the door can be usually opened by simply cutting the sheet metal from around the door, inserting your arm and unlocking the door.

LEARNING ACTIVITIES:

1. Watch a demonstration of how to use an air chisel.

2. With the help of a qualified firefighter become familiar with the techniques of forcing entry through a metal door using an air chisel.

FIREFIGHTER TRAINING SHEET

TASK 2-6 (Continued):

LEARNING ACTIVITIES (Continued):

3. Secure several pieces of sheet metal and fasten them to a piece of board and practice cutting them with an air chisel.

   CAUTION must be exercised because sheet metal, when cut, can become sharp and dangerous.

EVALUATION:

Given a metal door blocking entry or exit, cut metal using air chisel. Door must be free from jamb in four cuts or less.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-7: Open door using door opener

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Door opener

LEARNING STEPS:

1. Check to see if door is locked.
2. Open door opener with slotted end forward.
3. Place slotted end slightly below door knob.
4. With prying edge on ground or step, lift pry bar upward to about knee height.
5. Slide door opener forward until slotted end is fast against door knob handle.
6. Steady tool.
7. Pry downward sharply.

NOTE: There are several less complicated methods for opening doors than this method. For instance one may use a pry bar to insert between the door and the facing or a firefighter's axe can be inserted between the door and facing. With the door opener, sometimes referred to as the Detroit doorjamb, the door knob and shaft are removed releasing the latch pen from the facing. The point is to gain entry causing as little damage as possible. In some instances entry can be with one well aimed blow from a battering ram or fire axe while in other instances the use of a torch or air chisel may be necessary. All door openings tasks should be studied at the appropriate time.

FIREFIGHTER TRAINING SHEET

TASK 2-7 (Continued):

LEARNING ACTIVITIES:

1. Survey the territory covered by your company and list the door types you may need to open.
2. Determine, if possible, the buildings' typical contents to determine in advance any hazards you may confront upon opening a particular door.
3. List the particular tool or tools to be used to open doors in a particular building.
4. Study the drawings in the handouts and the above learning steps.
5. Locate an old abandoned building or fire mockup and practice opening doors.

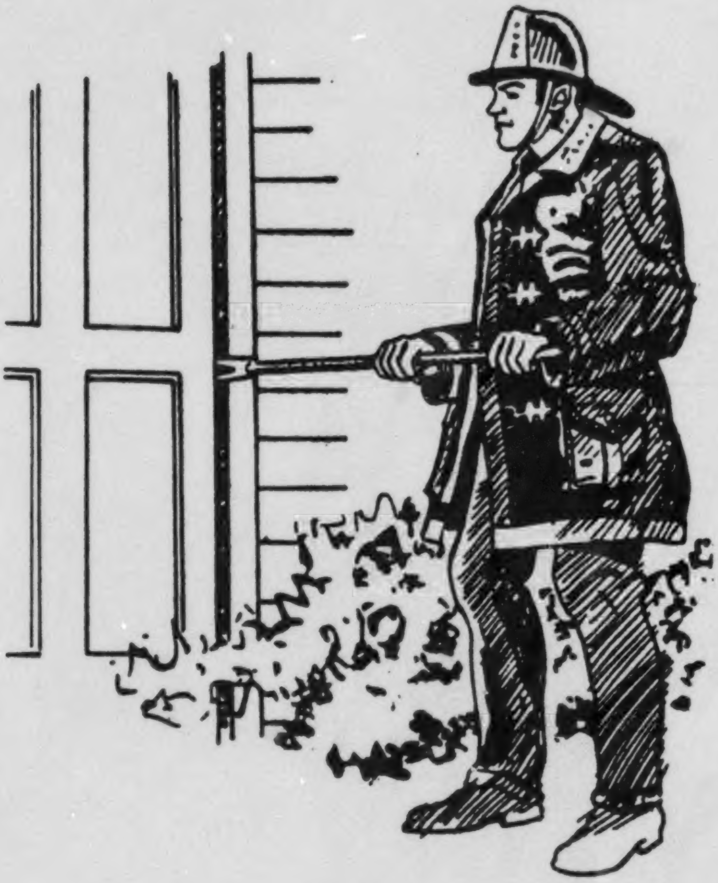
EVALUATION:

Given a door opener and locked door, open door. Door must be opened with first thrust.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-7-1



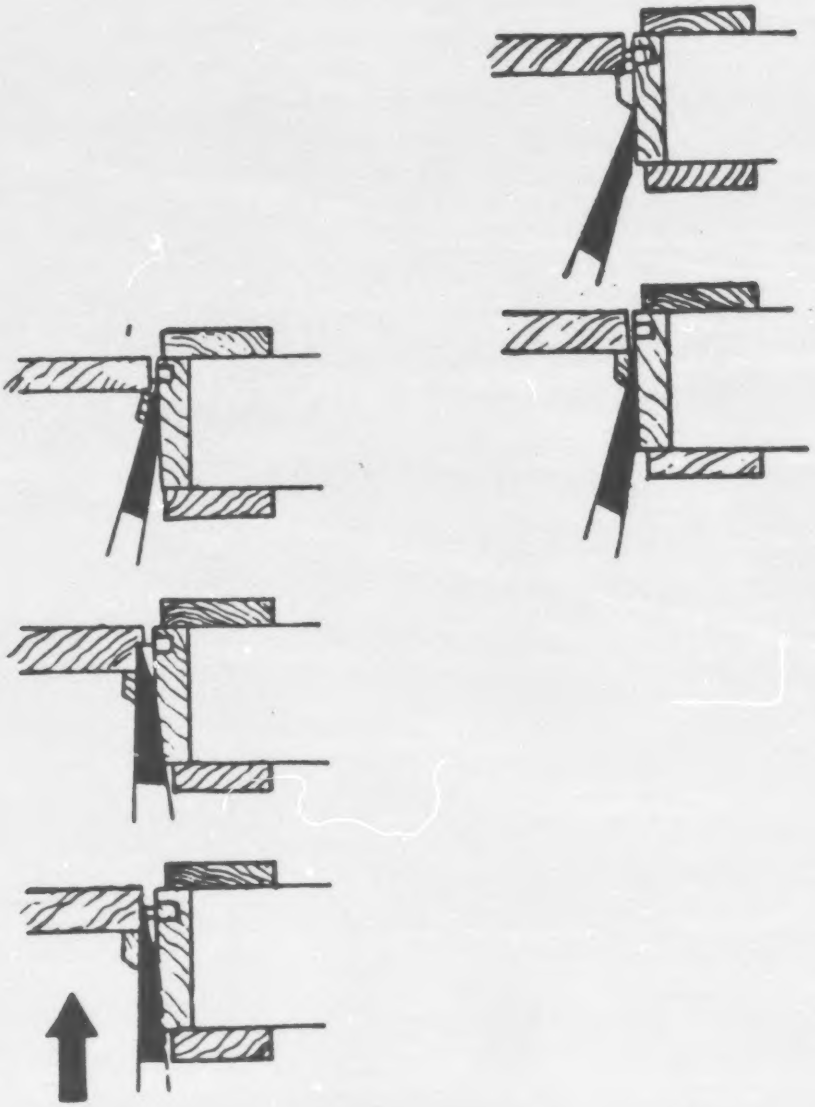
Using the door opener.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-7-2

Use a sharp wedge to spring a door in a stopped frame.



Springing a door in a stopped frame.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-8: Open door using various tools

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Turnout gear
2. Helmet with face shield
3. Detroit door opener
4. Heavy gloves
5. Bolt cutters
6. Fireman's ax
7. Spanner wrench
8. Crowbar
9. Port-a-power

LEARNING STEPS:

1. Check to see if door is locked.

2. Make up a list of needed steps for each type of opening equipment.

RESOURCES:

Ohio Fire Service Training Manual, 1980

IFSTA 101: Forcible Entry, 6th edition

LEARNING ACTIVITIES:

1. Read Chapter 15 "Forcible Entry" pages 335-346 in Ohio Fire Service Training and/or Chapter two in IFSTA 101.

2. Check with a qualified firefighter and find out which door opening equipment your department uses.

FIREFIGHTER TRAINING SHEET

TASK 2-8 (Continued):

LEARNING ACTIVITIES (Continued):

3. Review the Illustration Sheets.
4. Locate a mockup or building to be razed and practice using door opening equipment.

EVALUATION:

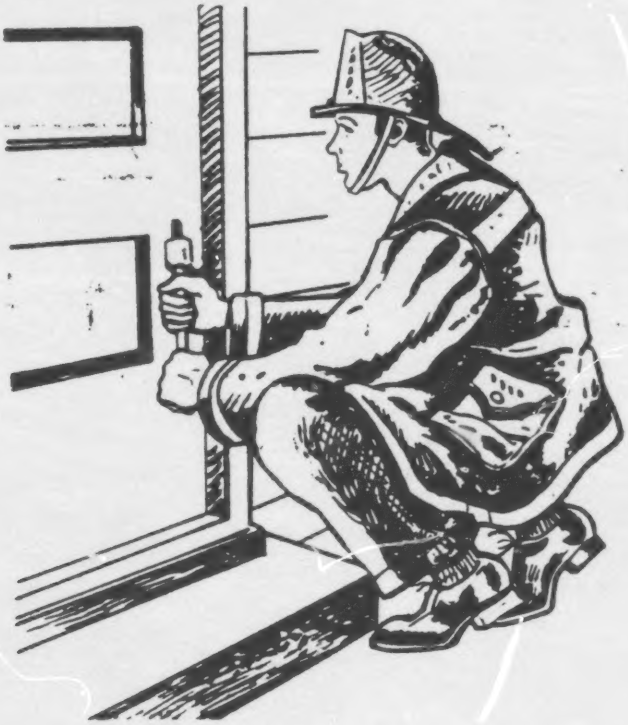
Given a locked door, use each type of your department's equipment and open the door. Door must be opened quickly with a minimum of damage.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-8-1

If the hinges are accessible, a spanner wrench, or similar tool may be used to remove the hinge pins and the entire door may thus be removed.



Removing the hinge pins.

Door set in a rabbeted frame:

a. Split the jamb or break the lock with the door opener to allow entry.

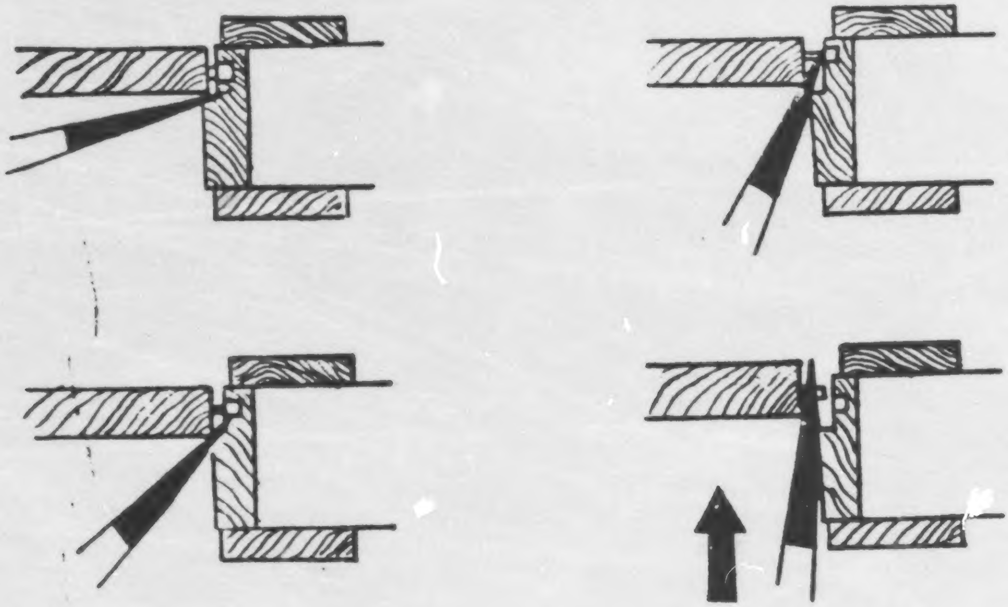
b. Alternatively, use the wedge of an ax by inserting the blade above or below the lock and prying it to allow the bolt to pass the keeper.

NOTE: The door and the jamb will be slightly damaged but the door will close properly after the entry has been made.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-8-2



Springing a door in a rabbeted frame.

Double doors. Pry between the doors until the bolt of the door clears the keeper. Any astragal or wooden molding covering the opening must be removed before inserting the wedge.

Door secured with night latches. Use a battering ram to spring the lock if prying with a door opener or a fire ax will not yield satisfactory results.

Overhead lift doors. Use a crowbar or claw tool to pry upward at the bottom. (After the lock bar is broken, the door will open readily.)

Padlocked door:

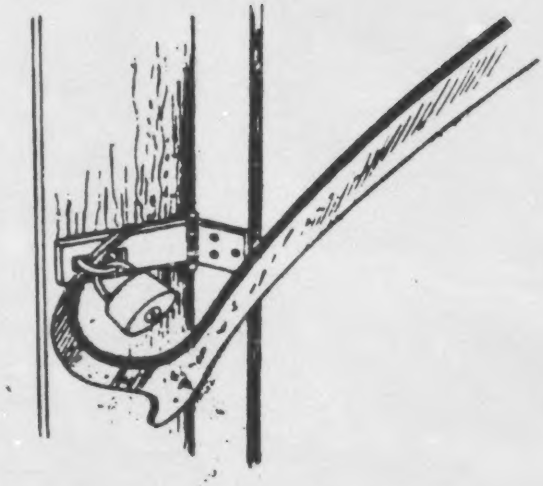
a. Use a door opener to pry or twist off the hasp staple without damaging the lock.

b. Alternatively, bolt cutters can be used to cut either the staple or the lock itself.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

ILLUSTRATION SHEET 2-8-3



Using a door opener on a hasp.

Door locked with a "bar-in-stirrup":

a. Use battering ram to batter the door down.

b. Alternatively, breach a hole through the door or wall adjacent to the bar so that the bar may be lifted from the stirrups.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-9: Cut out wall section using rescue saw

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Protective clothing
2. Rescue saw

LEARNING STEPS:

1. Check to see if entry can be made without cutting wall.
2. Select cutting area and hole size.
3. Collect tools and equipment.
4. Start saw.
5. Cut out wall section.

   CAUTION: Do not cut utility lines.
6. Remove jagged edges.

RESOURCES:

Chief Officer

Safety Officer

IFSTA 101: Forcible Entry, Chapter 4

FIREFIGHTER TRAINING SHEET

TASK 2-9 (Continued):

LEARNING ACTIVITIES:

1. Review IFSTA 101, Chapter 4.
2. Receive instructions on how to use a rescue saw from your chief officer and watch a demonstration of cutting out a wall section.
3. Obtain the needed equipment and a practice wall section and practice cutting.

EVALUATION:

Given a wall section to be breached, rescue saw, bar and hammer, cut out wall section using rescue saw. Opening must be of adequate size to allow action required.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-10: Separate steel bars using port-a-power

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Port-a-power
2. Turnout gear
3. Helmet with face mask

LEARNING STEPS:

1. Determine distance between bars.
2. Place proper extensions and feet on ram to make up distance.
3. Close pet cock on pump fully.
4. Place ram in center of steel bars.
5. Pump handle slowly, expanding ram.
6. Remove bars which are broken or torn from anchor.
7. Open pet cock.

CAUTION: Operation may cause flying particles; eye protection is necessary.

RESOURCES:

Student Information Sheet

Chief Officer

FIREFIGHTER TRAINING SHEET

TASK 2-10 (Continued):

LEARNING ACTIVITIES:

1. Attend a demonstration on separating steel bars using port-a-power.
2. Set up port-a-power and use the above learning steps to practice using it.

EVALUATION:

Given a port-a-power, full turnout gear with helmet and face shield, separate steel bars using port-a-power. Bars must be separated far enough to allow desired action.

FIREFIGHTER TRAINING SHEET

UNIT: Forcible Entry

TASK 2-11: Open jammed car door using jaws-of-life

NFPA: 3-2.1 THE FIREFIGHTER SHALL IDENTIFY AND DEMONSTRATE THE USE OF EACH TYPE OF FORCIBLE ENTRY TOOL USED BY THE AUTHORITY HAVING JURISDICTION.

4-2.2 THE FIREFIGHTER SHALL DEMONSTRATE THE METHOD AND PROCEDURE OF FORCIBLE ENTRY THROUGH ANY DOOR, WINDOW, CEILING, ROOF, FLOOR, OR VERTICAL BARRIER SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

LEARNING STEPS:

1. Connect hydraulic lines.
2. Engage choke on compressor.
3. Pull starter cord and start.
4. Disengage choke.
5. Move trigger on jaws to left and open.
6. Insert one tip on door near lock and close on door edge.
7. Move jaws and bend door edge creating small gap.
8. Remove jaws from door edge.
9. Insert jaws in gap and open slowly until lock breaks.
10. Insert jaws between door and jamb on hinge side of door at top hinge.
11. Open slowly until hinge breaks.
12. Insert jaws between door and jamb at bottom hinge.
13. Open slowly until hinge breaks.
14. Close jaws.
15. Push red kill button until engine stops.
16. Disconnect hydraulic lines.
17. Remove door.

FIREFIGHTER TRAINING SHEET

TASK 2-11 (Continued):

RESOURCES:

Operating Manual for Port-a-Power

Chief Officer

LEARNING ACTIVITIES:

1. Read the operating manual on using jaws-of-life, review the above learning steps and attend a demonstration.
2. Where possible, visit a junk yard and get permission to practice on cars that are not salvagable.

EVALUATION:

Given jaws-of-life, rescue tools, and jammed car door, open jammed car door. Door must be opened sufficiently to remove victim, or removed completely.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-1: Be aware of hazardous respiratory environments

NFPA: 3-3.1 THE FIREFIGHTER SHALL NAME AT LEAST FOUR HAZARDOUS RESPIRATORY ENVIRONMENTS ENCOUNTERED IN FIREFIGHTING.

RESOURCES:

IFSTA 108: Fire Service Rescue and Protective Breathing Practices, 4th edition, pp. 9-16

Basic Firemen's Training Course, University of Maryland, p. 302

LEARNING ACTIVITIES:

1. Review the resources (as available) and any other applicable written material in your department.
2. Discuss the various respiratory hazards that other firefighters have encountered.
3. Make a list of the most likely hazardous respiratory environments in your area.

EVALUATION:

Be able to discuss the most likely hazardous respiratory environments in your area.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-2: Don protective clothing

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Protective clothing

LEARNING STEPS:

1. Place the boots on the floor from 6 to 8 inches apart. Place the legs of the protective trousers over the corresponding boots and work the trousers down so that the tops of the boots are easily accessible through trousers waistline. Fasten suspenders to the trousers and place outside the trousers waistline.

2. Hang the protective coat and helmet (hood) approximately an arm's reach from the trousers and boots. Place the protective gloves in the lower, outside pockets of the coat.

3. Don the clothing by stepping into the boots and pulling them up. Grab the suspenders and pull them over the shoulders (which also pulls the trousers up), and snap waist flap. Put the protective coat on, helmet (protective hood), and finally, the gloves.

RESOURCES:

IFSTA 108: Fire Service Rescue and Protective Breathing Practices, pp. 59-60

Chief Officer

Basic Firemen's Training Course, University of Maryland

LEARNING ACTIVITIES:

1. Read over pages 304 and 305 of the Maryland course.

2. Attend a demonstration on donning protective clothing.

3. Under the supervision of a chief officer, use the above learning steps to practice donning protective clothing.

FIREFIGHTER TRAINING SHEET

TASK 3-2 (Continued):

EVALUATION:

Given a bunker coat, bunker trousers, plastic helmet, boots, and gloves (fig. 1) lay out the clothing in emergency donning fashion and, on command, don the outfit within 10 seconds.

Given an aluminized coat, aluminized trousers, protective hood, boots, and gloves (fig. 2) lay out the clothing in emergency donning fashion and, on command, don the equipment within 10 seconds.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

INFORMATION SHEET 3-2-1

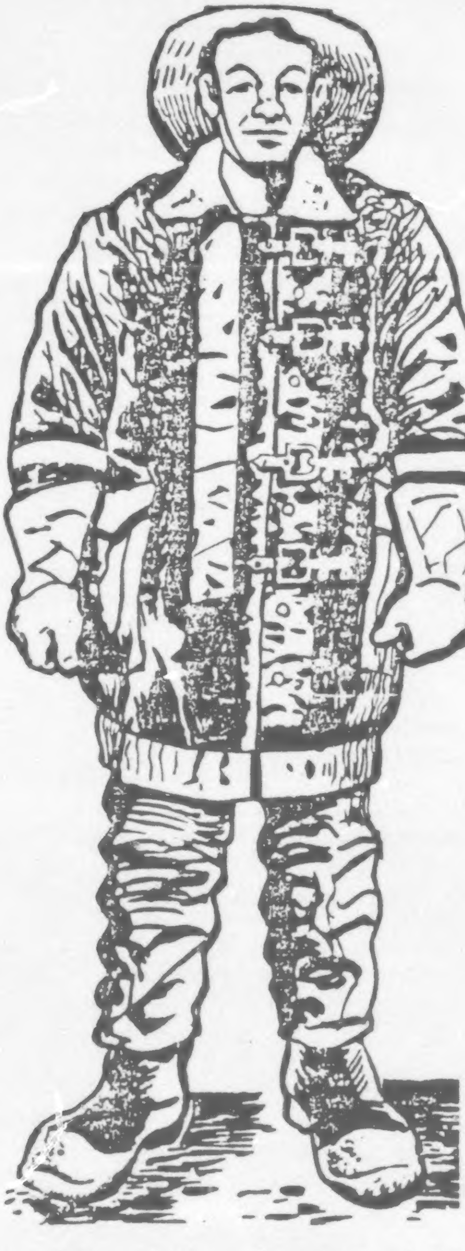


Figure 1. Normal protective clothing.

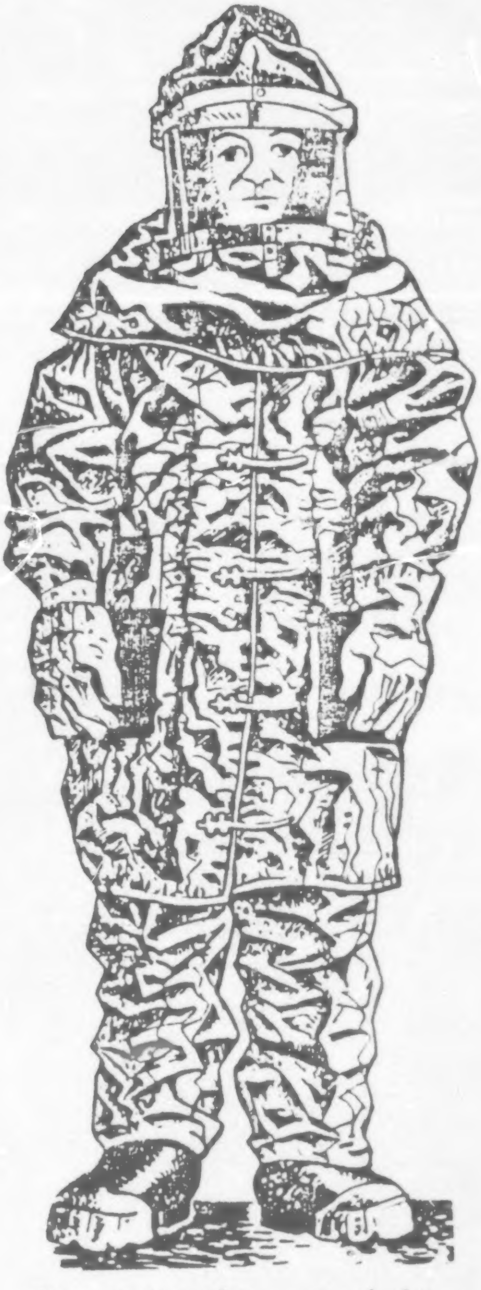


Figure 2. Special protective clothing.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-3: Be aware of personal physical requirements and limitations and safety features of your departments protective breathing apparatus

NFPA: 3-3.3 THE FIREFIGHTER SHALL EXPLAIN THE PHYSICAL REQUIREMENTS OF THE WEARER, THE LIMITATIONS OF THE PROTECTIVE BREATHING APPARATUS, AND THE SAFETY FEATURES OF ALL TYPES OF PROTECTIVE BREATHING APPARATUS USED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Department protective breathing equipment

RESOURCES:

Manufacturer's specifications for protective breathing apparatus

LEARNING ACTIVITIES:

1. While looking at the protective breathing apparatus, discuss with a qualified firefighter (a) personal physical requirements, (b) limitations of the apparatus, and (c) all safety features.
2. Write down all of the information in the activity and have it verified correct by a qualified firefighter.
3. Practice remembering this information by successfully explaining it to other firefighters.

EVALUATION:

When given a piece of department protective breathing apparatus, be able to correctly describe (a) person physical requirements, (b) limitations of the apparatus, and (c) all safety features in less than three minutes.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-4: Test self-contained breathing apparatus (air type)

NFPA: 3-3.5 THE FIREFIGHTER SHALL DEMONSTRATE THAT THE PROTECTIVE BREATHING APPARATUS IS IN A SAFE CONDITION FOR IMMEDIATE USE.

TOOLS AND EQUIPMENT:

1. Crescent wrench 10"
2. Shaving brush
3. Cup and soap or other sudsing material

LEARNING STEPS:

1. Check condition of carrying device.
2. Check to see if equipment is complete and in good condition.
3. Check cylinder pressure.

   NOTE: If pressure is below recommended level, recharge the cylinder or replace with full one.
4. Check facepiece, hose and exhalation valve.
5. Make hose connections and check performance of regulator.
6. Bring regulator gauge to specified test pressure.
7. Test by-pass valve for leaks.
8. Test regulator shut-off valve for leaks.
9. Test cylinder valve for leaks.
10. Don face mask.

RESOURCES:

IFSTA 108: Fire Servie Rescue and Protective Breathing Practices, 4th edition, pp. 46-47

NFPA 19 and 19-B

FIREFIGHTER TRAINING SHEET

TASK 3-4 (Continued):

RESOURCES (Continued):

NOTE: The following types of self-contained breathing apparatus are specified by the United States Bureau of Mines for use by fire departments: a. self-contained open circuit "demand" or "pressure-demand" types containing one or more cylinders of respirable air, b. closed circuit breathing apparatus using a chemical as the source of respirable oxygen, and c. closed circuit compressed oxygen breathing apparatus. It is highly unlikely that any department would have types reflecting all three of these standards. However, it is generally felt by most training officers and other experienced persons that each new firefighter should become familiar with all types. Various industrial plants keep self-contained breathing apparatus on hand for while it is highly likely that fire companies from two or more cities might be at the same fire scene, it is unlikely that they would all have the same type of breathing apparatus so a wise firefighter will study all types. There are several sources of material and information available in West Virginia. The Mining and Energy Resources at West Virginia University in Morgantown, West Virginia has produced some good training programs for public use. Another good source of material is the Mining Academy in Beckley. Both these institutions frequently offer courses on this subject that you may attend.

LEARNING ACTIVITIES:

1. Secure materials from available sources.
2. Attend a demonstration by qualified instructor on testing self-contained breathing apparatus and, take notes.
3. Compare your notes with the above learning steps and resources.
4. Contact other fire companies in towns and cities close by and list the different type of equipment available.
5. Secure self-contained breathing apparatus and, following the learning steps, test it.

FIREFIGHTER TRAINING SHEET

TASK 3-4 (Continued):

EVALUATION:

Given a self-contained breathing apparatus (air-type) test the apparatus. All equipment labeled "OK" by firefighter must be so rated by chief officer.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-5: Don the breathing apparatus

NFPA: 3-3.4 THE FIREFIGHTER SHALL DEMONSTRATE DONNING BREATHING APPARATUS WHILE WEARING PROTECTIVE CLOTHING.

LEARNING STEPS:

1. Inspect the apparatus visually to make sure that all parts appear to be in good operating condition.
2. Check the cylinder pressure gauge to make sure that the cylinder is fully charged.
3. Quickly check all straps to make sure they are fully extended.
4. Check the demand regulator to be sure that the main line valve is fully open and that the bypass (red) valve is completely closed.
5. Turn the cylinder valve to the full open position. If the mask is so equipped, set the reserve lever to start.
6. Insert the left arm through the harness (fig. 1), swing the cylinder assembly on to the back, and insert the right arm through the harness. (The left arm must be inserted first to avoid possible damage to the regulator.)
7. Tighten the shoulder straps so that the cylinder is positioned well up on the back.
8. Fasten the chest and waist straps.
9. Connect the breathing tube to the regulator outlet (fig. 2).
10. Grasp the facepiece between the thumbs and forefingers. Place the chin in the lower part of the facepiece and pull the strap harness back over the head. Tighten the straps from the bottom up (five straps). They should be snug but not too tight. Check the fit of the facepiece by placing one hand over the end of the breathing tube and inhaling. The facepiece should collapse against the face.
11. Insure that the breathing apparatus is in position (fig. 3).

FIREFIGHTER TRAINING SHEET

TASK 3-5 (Continued):

RESOURCES:

Basic Firemen's Training Course, University of Maryland, pp. 308-316

Chief Officer

IFSTA 108: Fire Service Rescue and Protective Breathing Practices, 4th edition, pp. 53-57

LEARNING ACTIVITIES:

1. Attend a demonstration lesson on donning the breathing apparatus.
2. Study the above learning steps, illustrations and resources.
3. Under the supervision of a chief officer, practice donning the breathing apparatus.

EVALUATION:

Given a compressed-air, self-contained, demand breathing apparatus, don the apparatus while wearing the bunker coat, bunker trousers, and plastic helmet.

The performance measures must be completed within 2 minutes or less.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

INFORMATION SHEET 3-5-1

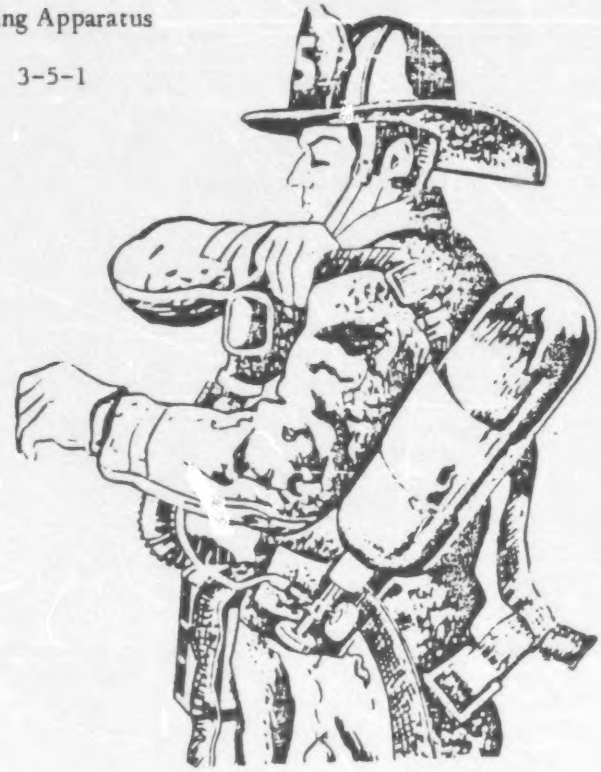


Figure 1. Putting on the compressed air, self-contained demand breathing apparatus.

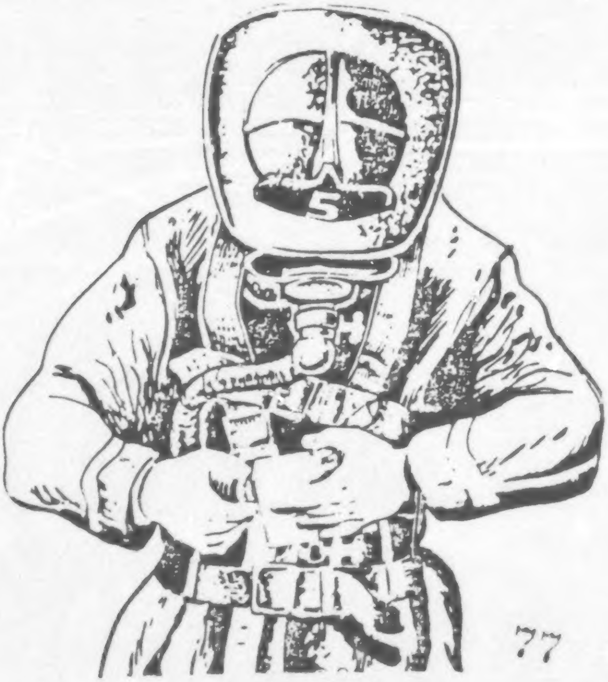


Figure 2. Connecting the breathing tube to the regulator outlet.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

INFORMATION SHEET 3-5-2

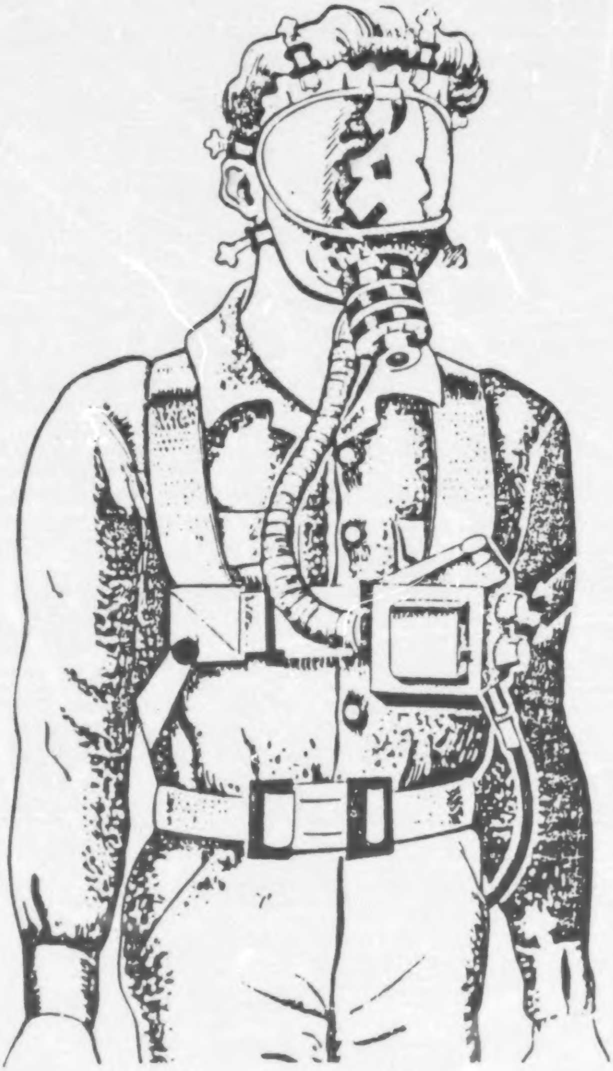


Figure 1. Self-contained breathing apparatus.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-6: Use protective breathing apparatus in a dense smoke environment

NFPA: 3-3.2 THE FIREFIGHTER SHALL DEMONSTRATE THE USE, IN A DENSE SMOKE ENVIRONMENT, OF ALL TYPES OF PROTECTIVE BREATHING APPARATUS USED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Types of protective breathing apparatus used by your department.
2. Smoke environment.

LEARNING STEPS:

1. Select one type of protective breathing apparatus.
2. Don the apparatus.
3. Wear the apparatus in a dense smoke environment.
4. Remove apparatus and secure it.
5. Repeat steps for other apparatus as available.

RESOURCES:

Chief Officer

Manufacturer's operators manual for each type of protective breathing apparatus

LEARNING ACTIVITIES:

1. Locate the type(s) of protective breathing apparatus used by your department.
2. Review the operator manual(s) for the apparatus.
3. Have a qualified firefighter demonstrate the correct use of each apparatus.

FIREFIGHTER TRAINING SHEET

TASK 3-6 (Conti[illegible]):

LEARNING ACTIVITIES (Continued):

4. Practice wearing each type of apparatus.
5. Get checked out on the proper procedures for operating in a dense smoke environment.

EVALUATION:

Use each department type of protective breathing apparatus in a dense smoke environment. You must use the apparatus correctly and experience only minimum discomfort during the process.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-7: Take necessary actions upon activation of the low-air warning device on the breathing apparatus

NFPA: 4-3.3 THE FIREFIGHTER SHALL DEMONSTRATE THE CORRECT USE OF EMERGENCY PROCEDURES INCLUDING BREATHING APPARATUS TO ASSIST OTHER FIREFIGHTERS, CONSERVATION OF AIR AND RESTRICTIVE USE OF BY-PASS VALVES.

TOOLS AND EQUIPMENT:

1. Breathing apparatus with low-air warning device

LEARNING STEPS:

1. Slowly open the by-pass valve until there is just enough air being provided.
2. Close the main line valve by turning the control clockwise.
3. Readjust the by-pass valve until there is just enough air being provided to the facepiece.
4. Exit building or hazardous location.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration lesson.
2. Study the above learning steps.
3. Under the supervision of a chief officer, practice taking necessary action when low-air warning device on the breathing apparatus sounds.

EVALUATION:

In toxic atmosphere, given a self-contained breathing apparatus (fig. 1), with the low-air warning device activated, complete the learning steps without error.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-8: Fill resuscitator cylinders

NFPA: 4-3.2 THE FIREFIGHTER, GIVEN EACH TYPE OF BREATHING APPARATUS USED BY THE AUTHORITY HAVING JURISDICTION, SHALL DEMONSTRATE THE CORRECT PROCEDURE FOR RECHARGING.

TOOLS AND EQUIPMENT:

1. Yoke
2. Cresent wrench
3. Large oxygen cylinder filled
4. Resuscitator
5. Used resuscitator cylinders

LEARNING STEPS:

1. Check hydrostatic test date on cylinder to be filled.
2. Open valve of discharging cylinder for short blast.
3. Attach yoke to both cylinders.
4. Open cylinder, allowing pressure to equalize between cylinders.
5. Close valve of small cylinder first, then close large one.
6. Disconnect small bottle from yoke.
7. Disconnect yoke from large cylinder. Replace cap.

RESOURCES:

Manufacturer's Guide

LEARNING ACTIVITIES:

1. Read pages 48-49 of IFSTA 108.
2. Attend a demonstration on filling resuscitator cylinders.

FIREFIGHTER TRAINING SHEET

TASK 3-8 (Continued):

LEARNING ACTIVITIES (Continued):

3. Study the learning steps.
4. Practice filling cylinders.

EVALUATION:

Given yoke, crescent wrench, oxygen cylinder and resuscitator, fill resuscitator cylinders. When cylinder is placed in resuscitator, gauges will show full.

FIREFIGHTER TRAINING SHEET

UNIT: Protective Breathing Apparatus

TASK 3-9: Clean and store protective breathing apparatus

NFPA: 3-3.6 THE FIREFIGHTER SHALL DEMONSTRATE PROPER PROCEDURE FOR CLEANING AND SANITIZING PROTECTIVE BREATHING APPARATUS FOR FUTURE USE.

TOOLS AND EQUIPMENT:

1. Department protective breathing equipment
2. Cleaning materials
3. Storage facilities

RESOURCES:

IFSTA 108: Fire Service Rescue and Protective Breathing Practices, 4th edition, pp. 46-47 and 58

Manufacturer's Maintenance Instruction

LEARNING ACTIVITIES:

1. Determine from common sense and qualified firefighters why the protective breathing apparatus needs to be cleaned and stored correctly.

2. Review the resources.

3. Watch a demonstration of the correct procedure for cleaning and storing the apparatus. Take notes.

4. Practice cleaning and storing the apparatus.

EVALUATION:

Correctly clean and store the protective breathing apparatus according to the manufacturers and departmental standards. You must do this in a reasonable amount of time as set by your chief officer.

FIREFIGHTER TRAINING SHEET

UNIT: First Aid

TASK 4-1: Perform primary examination

NFPA: 3-4.1 THE FIREFIGHTER SHALL DEMONSTRATE A PRIMARY SURVEY FOR LIFE-THREATENING INJURIES.

TOOLS AND EQUIPMENT:

1. Blanket
2. Penlight
3. Compressor
4. Bandages

LEARNING STEPS:

1. Size up situation.

2. Ask what happened.

3. Do an air way examination, use artificial ventilation if victim is not breathing.

4. Take respirations.

5. Take pulse.

6. Control bleeding.

7. Control shock.

RESOURCES:

Chief Officer

EMT Instructor

LEARNING ACTIVITIES:

1. Participate in an instructor lesson and demonstration.

2. Identify procedures for opening and maintaining an open air way.

3. Identify procedures for artificial ventilation.

FIREFIGHTER TRAINING SHEET

TASK 4-1 (Continued):

LEARNING ACTIVITIES (Continued):

4. Identify procedures for taking respirations.
5. Identify procedures for taking pulse.
6. Identify procedures for bleeding control.
7. Identify procedures for controlling shock.
8. Practice opening air ways, taking respirations, pulse, procedures for bleeding control, and procedures for controlling shock on another recruit.

EVALUATION:

Given the necessary equipment and a "victim" practice performing a primary examination.

FIREFIGHTER TRAINING SHEET

UNIT: First Aid

TASK 4-2: Perform C.P.R.

NFPA: 3-4.7 THE FIREFIGHTER SHALL DEMONSTRATE CARDIOPULMONARY RESUSITATION.

TOOLS AND EQUIPMENT:

1. Manikin

LEARNING STEPS:

1. Determine need to perform.
2. Position victim.
3. Open air way.
4. Check pulse.
5. Use mouth-to-mouth breathing (4 quick breathes).
6. Find landmark.
7. Apply proper cardiac compressions.
8. Ventilate.
9. Check effectiveness.

RESOURCES:

Heart Association CPR Materials

Certified CPR Instructor

LEARNING ACTIVITIES:

1. Participate in an instructor lesson and demonstration.
2. Review heart association handouts.
3. Practice each step of procedure on manikin.
4. Practice complete set of procedures on manikin.

FIREFIGHTER TRAINING SHEET

TASK 4-2 (Continued):

EVALUATION:

Perform artificial ventilation using the mouth-to-mouth and mouth-to-nose techniques on the manikin. This procedure must be done until air gets into the lungs of the manikin and must be continued for a minimum of 1 minute.

Perform artificial circulation by means of external cardiac compressions on the manikin. These compressions must be given in the correct relationship with the ventilations and must be to the correct depth and rate.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-1: Identify knots and describe their purpose

NFPA: 4-5.3 THE FIREFIGHTER SHALL DEMONSTRATE THE USE OF ROPE, USING APPROVED KNOTS AND HITCHES, TO TIE LADDERS, HOSE, AND OTHER EQUIPMENT, SO AS TO SECURE THEM TO IMMOVABLE OBJECTS.

LEARNING STEPS:

1. Become familiar with knots.
2. Describe the purpose of each knot.

RESOURCES

Ohio Fire Service Training, 1980

Information Sheets

IFSTA 200

LEARNING ACTIVITIES:

1. Obtain written information such as Ohio Fire Service Training, 1980, pages 235-245, IFSTA 200 pages 25-35 or the assistance of a qualified firefighter and become familiar with the following knots and their use:

   a. bowline
   b. clove hitch
   c. becket or sheep bend
   d. bight
   e. loop
   f. round turn
   g. half hitch
   h. other knots used by your department

EVALUATION:

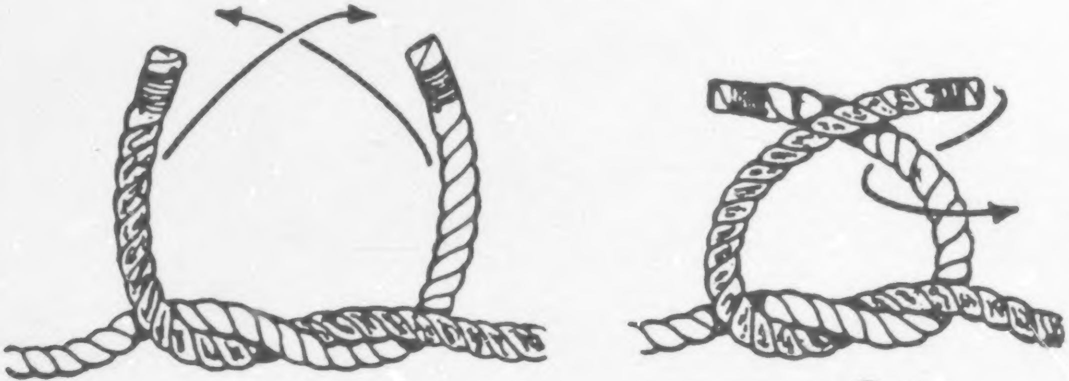
When given the name, picture, or actual knot used by the department, identify it, and describe the purpose for which it would be used.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

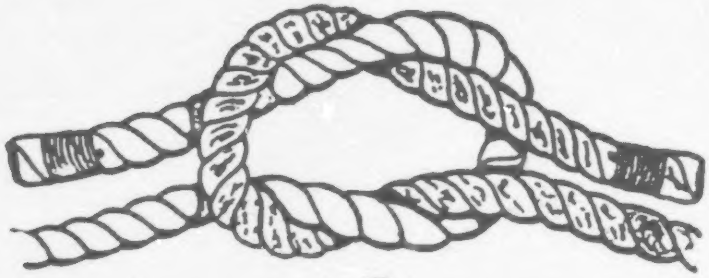
INFORMATION SHEET 5-1-1

Square knot. The square knot (fig. 4) is used to join two ropes of equal size. Hold one rope end in each hand, place the right end over the left, and make a hitch. Then place the left end over the right, again making a hitch. Complete the knot by pulling both ends.



① Cross two lines

② Bring ends together and cross again



③ Ends must be on same side

Figure 4. Square knot.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-2: Fasten rope around post using hitch method

NFPA: 4-5.2 THE FIREFIGHTER SHALL SELECT AND TIE A ROPE BETWEEN TWO OBJECTS AT LEAST 15 FEET APART, USING AN APPROVED HITCH OR KNOT, THAT WILL SUPPORT THE WEIGHT OF A FIREFIGHTER ON THE ROPE.

TOOLS AND EQUIPMENT:

1. Rope

LEARNING STEPS:

1. Secure rope.
2. Secure one end of line with running part around stationary object and parallel to standing part.
3. Form half hitch around standing part.
4. Pass running part through parallel ropes.
5. Form another loop (half hitch) over half hitch previously formed.
6. Pull loop snugly to side of half hitch.
7. Wedge half hitch against standing part.
8. Place one or more half hitches back of hitch on standing part.
9. Hold hitch with one hand and pull on the running part with other.
10. Tighten rope.
11. Slip hitch back on the standing part.

RESOURCES:

Ohio Fire Service Training, 1980

Information Sheets

IFSTA 200, 1st edition

FIREFIGHTER TRAINING SHEET

TASK 5-2 (Continued):

LEARNING ACTIVITIES:

1. Review methods of tying hitches in the Ohio Fire Service Training, 1980, pages 239-245; IFSTA 200, pages 28-30; and the Information Sheets and/or work with qualified firefighters until you can tie the following hitches:

    a. clove hitch
    b. bight
    c. loop
    d. round turn
    e. half hitch

2. Review Information Sheets.

3. Practice tying each of the hitches and particularly the ones used by your department until you can tie them in less than a minute.

EVALUATION:

Given a post and length of rope, fasten rope to post using each hitch method. Knot must be untied by one quick, smooth motion with no tangles.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-2-1

1. Half hitch. The half hitch (fig. 1) is used as a safety measure. Use in conjunction with other knots or hitches.

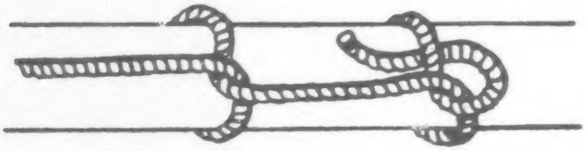


Figure 1. The half hitch.

2. Clove hitch. The clove hitch (fig. 2) is the most frequently used in firefighting to quickly secure a rope to another object, especially to handtools. Form two half hitches in the same line, with one half hitch to the other, and then place the second half hitch on top of the first.

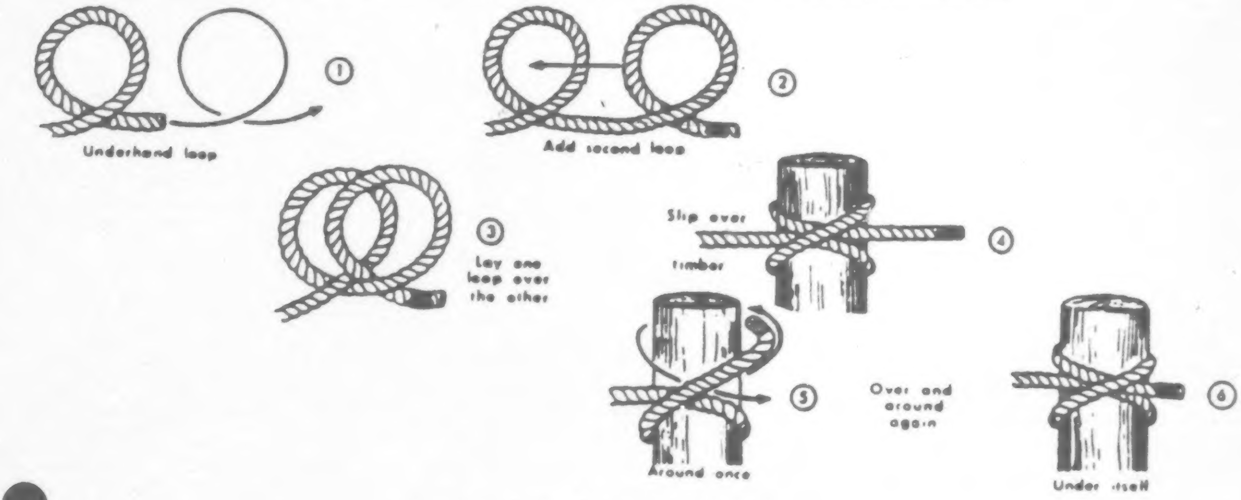

①
Underhand loop
②
Add second loop
③
Lay one loop over the other
Slip over timber
④
⑤
Around once
Over and around again
⑥
Under itself

Figure 2. The clove hitch.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-2-2

3. Chimney hitch. The chimney hitch (fig. 3) is used when it is necessary to anchor a rope to a solid object to strengthen the position of another object; for example, a charged hoseline on a ladder.

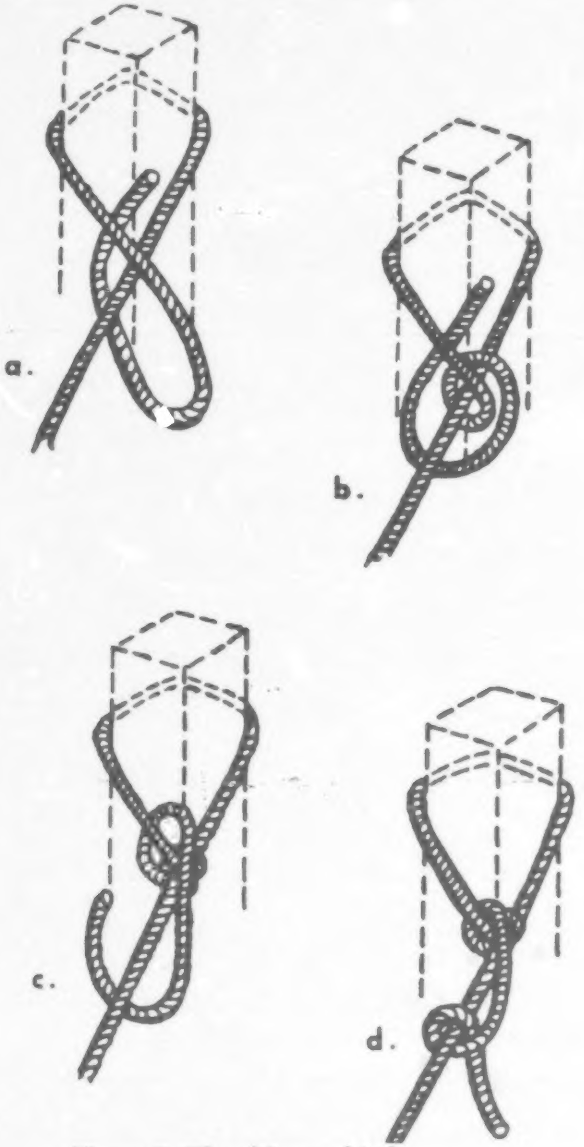


Figure 3. The chimney hitch.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-3: Fasten one rope to another using Beckett bend method

NFPA: 4-5.3 THE FIREFIGHTER SHALL DEMONSTRATE THE USE OF ROPE, USING APPROVED KNOTS AND HITCHES, TO TIE LADDERS, HOSE, AND OTHER EQUIPMENT, SO AS TO SECURE THEM TO IMMOVABLE OBJECTS.

TOOLS AND EQUIPMENT:

1. Two lengths of rope unequal in diameter

LEARNING STEPS:

1. Make loop with larger diameter rope.
2. Pass end of smaller diameter rope through loop.
3. Bring loose end around both parts of loop.
4. Tuck end under its own standing part.
5. Place over the loop standing part.
6. Draw knot snuggly by holding to each end's standing parts.

RESOURCES:

IFSTA 101, 6th edition

LEARNING ACTIVITIES:

1. Study pages 120-121 of IFSTA 101 until you can visualize the steps necessary to tie the Becket or Sheet Bend.
2. Have someone demonstrate how to tie the Becket or Sheet Bend.
3. Practice tying the Becket or Sheet Bend with two ropes of unequal diameter until you can do it quickly and efficiently.
4. Determine where the Becket or Sheet Bend is used and be able to describe the conditions.

FIREFIGHTER TRAINING SHEET

TASK 5-3 (Continued):

EVALUATION:

Given two lengths of rope unequal in diameter, fasten one to the other using Becket bend method.

1. Ropes will not pull apart.
2. When two loops are pushed together, they must release.

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FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-3-1

Becket bend. The becket bend (fig. 5) is a knot used to join two ropes of unequal size. Make a loop in the end of one piece of rope. Pass the end of the other rope under and through the loop; around behind, over the loop, and then back under itself.

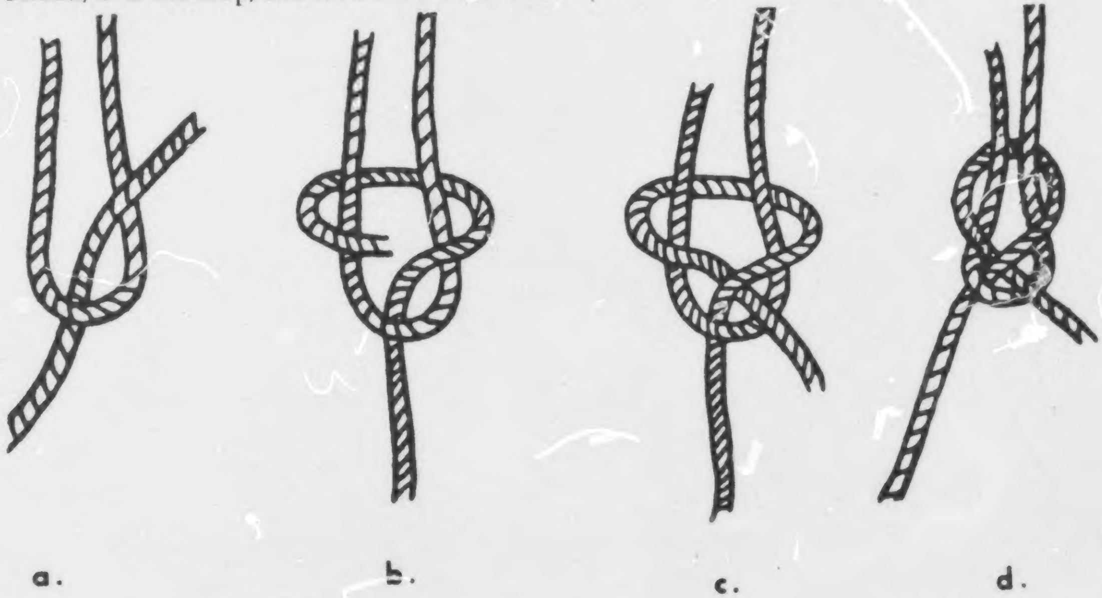

Figure 5. Becket bend.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-4: Coil and throw a rope

NFPA: 4-5.3 THE FIREFIGHTER SHALL DEMONSTRATE THE USE OF ROPE, USING APPROVED KNOTS AND HITCHES, TO TIE LADDERS, HOSE, AND OTHER EQUIPMENT, SO AS TO SECURE THEM TO IMMOVABLE OBJECTS.

TOOLS AND EQUIPMENT:

1. 50 feet of 1/2 inch rope
2. Ladder
3. Rope coiler

LEARNING STEPS:

1. Straighten rope to full length taking care to remove kinks and tangles.
2. Attach loop end to one side of a standard.
3. Coil rope around both standards taking care that folds or bends are smooth and are moderately tight.
4. Leave excess rope at end of coil.
5. Wind excess around coil in smooth even circles with sufficient width developed to hold rope coils.
6. Tuck off knotted end of rope.
7. Position self at point from which to throw rope.
8. Locate point where rope must reach.
9. Toss rope.
   Caution: Hold end of rope securely.

RESOURCES:

Ohio Fire Service Training Manual, 1980

NFPA 1001, 1974

FIREFIGHTER TRAINING SHEET

TASK 5-4 (Continued):

LEARNING ACTIVITIES:

1. Read and study the information on pages 250-251 of the Ohio Fire Service Training Manual until you feel you understand the process.
2. Review the professional qualifications on coiling and throwing a rope in NFPA 1001, pages 38, 46, and 47 and make a list of the applicable qualifications.
3. Attend a demonstration on coiling and throwing a rope.
4. Obtain a rope and coiling equipment and practice until you are proficient.

EVALUATION:

Given rope with loop in one end and rope coiler, coil rope. Upon dropping coil from height greater than length of rope, coil must unwind smoothly to end of rope.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-5: Remove strain from coupling on hanging hose using running bowline

NFPA: 4-5.3 THE FIREFIGHTER SHALL DEMONSTRATE THE USE OF ROPE, USING APPROVED KNOTS AND HITCHES, TO TIE LADDERS, HOSE, AND OTHER EQUIPMENT, SO AS TO SECURE THEM TO IMMOVABLE OBJECTS.

TOOLS AND EQUIPMENT:

1. Rope
2. Charged line

LEARNING STEPS:

1. Place rope under coupling.
2. Loop end around standing part.
3. Tie bowline with end on running part of rope.
4. Tighten by drawing standing part taut through bowline.
5. Lift coupling and tie other end of rope to stationary object.

RESOURCES:

Ohio Fire Service Training Manual, 1980

IFSTA 200, 1st edition

Instruction Sheet

LEARNING ACTIVITIES:

1. Consult the resources or a qualified firefighter and learn to tie a bowline.
2. Determine where a bowline is used and practice tying it for use until you can tie it in less than a minute.

FIREFIGHTER TRAINING SHEET

TASK 5-5 (Continued):

EVALUATION:

Given a "swinging" charged line, remove strain from coupling on hanging hose using running bowline. Weight on line must be removed from coupling and redistributed on hose. Rope must hold weight of hose and coupling.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-5-1

Bowline. The bowline (fig. 6) may be used to form a secure loop in the end of a rope, or for tying the rope securely around beam, pole, or like object. Tie by holding the rope in the left hand and the free end in the right hand. With the right hand, make a bight in the rope near the left hand. Pass the free end under and through the bight, around the standing line, and back through the bight. Finish by tightening the knot.

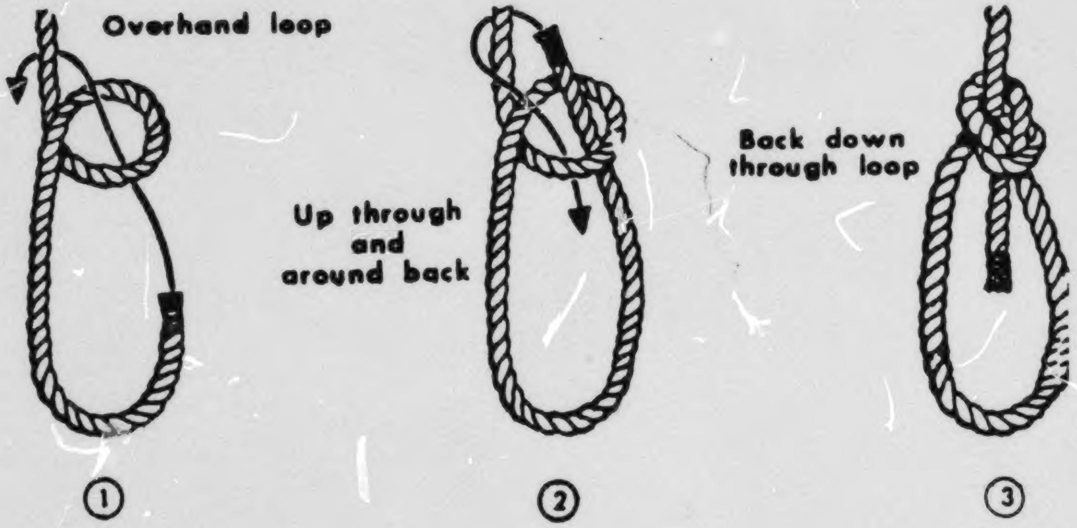
Overhand loop
Up through and around back
Back down through loop
①
②
③

Figure 6. The bowline.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-6: Hoist charged line, pole, extinguisher and ladder to a height of at least 20 feet

NFPA: 4-5.1 THE FIREFIGHTER, WHEN GIVEN A SIMULATED FIREFIGHTING OR RESCUE TASK, SHALL SELECT THE APPROPRIATE SIZE, STRENGTH, AND LENGTH ROPE FOR THE TASK.

TOOLS AND EQUIPMENT:

1. Rope
2. Charged line
3. Tools
4. Ladder
5. Appliance

LEARNING STEPS:

1. Tie clove hitch.
2. Pass rope, doubled through handle.
3. Pass rope over the top.
4. Throw two half hitches and a safety over the top.

RESOURCES:

Ohio Fire Service Training Manual, 1980

IFSTA 200, 1st edition

Information Sheets

LEARNING ACTIVITIES:

1. Examine pages 265-266 in Ohio Fire Service Training Manual or pages 32-33 of IFSTA 200.
2. Review Information Sheets.
3. Work with a qualified firefighter and practice tying and hoisting hose lines, tools, ladders, and appliances.

FIREFIGHTER TRAINING SHEET

TASK 5-6 (Continued):

EVALUATION:

Given a rope and a charged line with nozzle closed, a tool, a ladder, and an appliance, tie it appropriately and lift each a minimum of 20 feet.

1. There can be no strain on object.
2. Object cannot be scraped while hoisting.
3. Object will not be knocked open or engaged.

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FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-6-1

Pole hoist. The pole hoist (fig. 8) is used in raising such handtools as pike poles, pry bars, and door openers to an upper story of a building. Tie a clove hitch around one end with one or two half hitches near the other end. Raise the tools with the heavy end first.

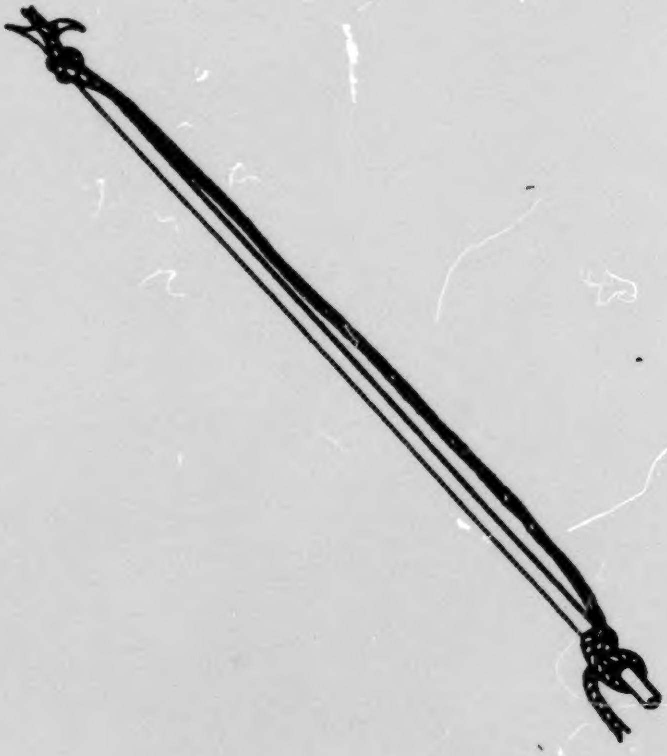

Figure 8. Pole hoist.

Hose hoist. The hose hoist (fig. 9) is used in raising empty or charged hoselines to an upper story of a building. Tie a clove hitch and a series of half hitches.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-6-2

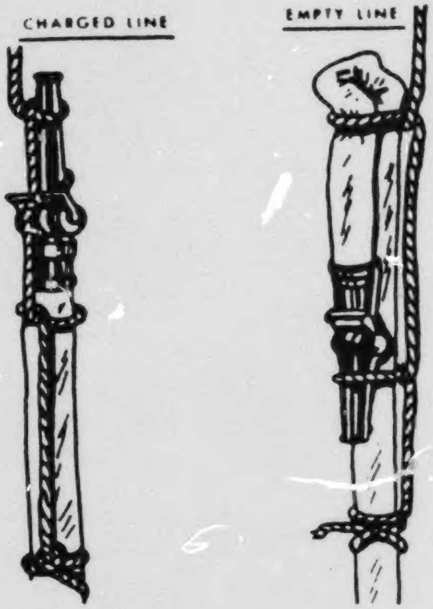

Figure 9. Hose hoist.

Extinguisher hoist. To make the extinguisher hoist (fig. 10), place a clove hitch around the base of the extinguisher and a half hitch around the collar. Make the bight opposite the extinguisher hose. This will prevent damage to the hose and fittings if the extinguisher hits the building or a projection while being hoisted.

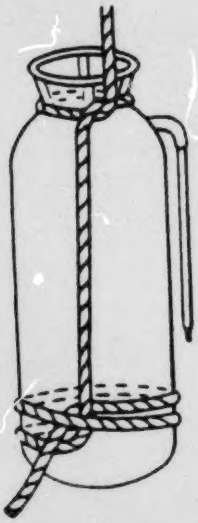

Figure 10. The fire extinguisher hoist.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-6-3

Ladder hoist. To make the ladder hoist (fig. 11), run the rope under the first two rungs, over the next three, and tie it with a clove hitch. Form a half hitch and slip it over the opened hooks. Always hoist a ladder with the hooks toward the building.

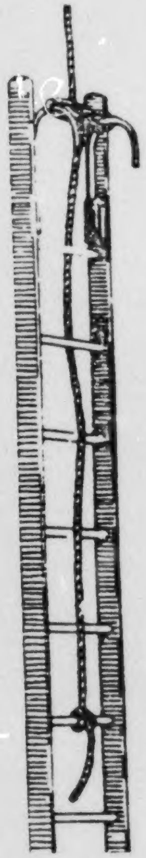

Figure 11. Ladder hoist.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

INFORMATION SHEET 5-6-4

Ax hitch. Because of their shape and weight, axes are difficult to secure with rope. You must be careful to tie a secure ax hitch (fig. 7). Tie a half hitch around the ax handle at the head; and pass the line under and back over the head, and around the handle. Finish with a half hitch around the heel of the handle.

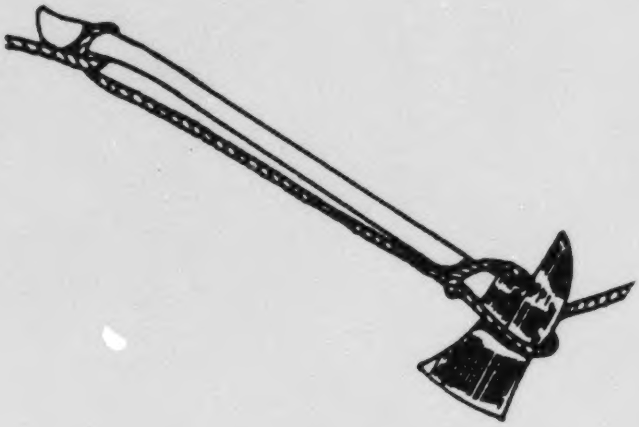

Figure 7. Ax hitch.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-7: Inspect, clean and maintain rope

NFPA: 4-5.1 THE FIREFIGHTER, WHEN GIVEN A SIMULATED FIREFIGHTING OR RESCUE TASK, SHALL SELECT THE APPROPRIATE SIZE, STRENGTH, AND LENGTH ROPE FOR THE TASK.

TOOLS AND EQUIPMENT:

1. Department ropes
2. Rope maintenance equipment

LEARNING STEPS:

1. Inspect departmental rope.
2. Report findings.
3. Clean and maintain rope.

RESOURCES:

Ohio Fire Service Training Manual, 1980

IFSTA 200

LEARNING ACTIVITIES:

1. With a qualified firefighter, locate and inspect the rope in your department or station.
2. Rview IFSTA 200 page 35 and/or Ohio Fire Service Training page 229 for information on care of rope.
3. Work with a qualified firefighter cleaning and maintaining rope.

EVALUATION:

Given pieces of soiled and damaged rope, clean and maintain the rope so that it is usable, undamaged, neatly coiled and stored.

FIREFIGHTER TRAINING SHEET

UNIT: Ropes

TASK 5-8: Pull down damaged walls and rafters using rope

NFPA. 4-5.1 THE FIREFIGHTER, WHEN GIVEN A SIMULATED FIREFIGHTING OR RESCUE TASK, SHALL SELECT THE APPROPRIATE SIZE, STRENGTH, AND LENGTH ROPE FOR THE TASK.

TOOLS AND EQUIPMENT:

1. Rope

LEARNING STEPS:

1. Determine wall to be pulled.
2. Tie bowline to the highest point possible on damaged wall.
3. Pull in one steady continuous motion until on ground.
4. Untie bowline.

CAUTIONS: Determine if other parts of structure might fall when wall is pulled. Do not pull wall into path of escape. Do not pull wall down on firefighters.

RESOURCES:

Chief Officer

Guest Speaker from wrecking company

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration on why rafters and walls should be pulled down and how to do it.
2. List reasons why walls and rafters should be torn down while fire is being fought.
3. List reasons why wall and ceiling should remain intact until a demolition team arrives.
4. Where possible go to a demolition site and get permission to pull down walls.

FIREFIGHTER TRAINING SHEET

TASK 5-8 (Continued):

EVALUATION:

Given rope, damaged rafters and walls to be razed, pull down damaged rafters and walls. Wall and/or rafters must be in a "down" position and no longer a hazard when finished.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-1: Execute one-person and two-person throw, salvage cover

NFPA: 4-6 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Salvage covers
2. Items to be covered

LEARNING STEPS:

One-person throw:

1. Secure salvage covers.
2. Locate items to be covered.
3. Move items to central location, placing tallest items in center.
4. Place roll on forearm with several folds grasped with free hand.
5. Pull the fold off and back.
6. Throw cover over object.
7. Unfold over and around objects.

Two-person throw:

1. Secure salvage cover and take two button corners.
2. Direct other person to take two top corners.
3. Jointly take a few folds in the hand easiest to operate and move apart, pulling cover tight.
4. Raise cover and throw.

RESOURCES:

Ohio Fire Service Training

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IFSTA 104: Salvage and Overhaul Practices

FIREFIGHTER TRAINING SHEET

TASK 6-1 (Continued):

LEARNING ACTIVITIES:

1. Read Chapter 20 of Ohio Fire Service Training and/or Chapter 3 of IFSTA 104.
2. Read the Information Sheets and make a list of items in your district which might be salvaged first in an emergency and prepare them for comparison with a list done by your classmates and chief officer in a seminar situation.
3. Visit businesses and homes in your territory and explain that you are interested in saving their irreplacable property such as bills, bank records, mailing lists, etc. and, with permission, sketch a rough drawing that indicates which items are too heavy, too tall, etc.

   NOTE: Be sure that proper procedures are followed if you decide to perform this learning activity. Ask for local publicity on radios, TV, or in newspapers. Seek civic participation and carry identification. Where possible, seek the assistance of local police.
4. Make a list of businesses with special items to be covered and classify each list.
5. Make a list of persons to be notified in the event that items may be endangered.
6. Using items available in your station or other suitable items, place items and practice one-person throws.

EVALUATION:

Given an area to be protected from water damage, execute one-person throw, salvage cover. Items covered will not get wet or soiled.

Given a salvage cover and objects to be covered, execute the two-person throw. When throw is made, air under cover must help support it until cover is secure over objects.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-2: Remove and protect valuable items from area

NFPA: 4-6 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Valuables
2. Salvage covers

LEARNING STEPS:

1. Determine area to be used for temporary storage.
2. Spread salvage cover flat in area.
3. Determine valuables to be removed.
4. Place valuables in center of cover.
5. Bring all four corners to center of cover.
6. Notify property owner or police officer of valuables' location.

RESOURCES:

Speakers from the community

Chief Officer

IFSTA 104

NOTE: When property is removed from premises, it is important to have the property owner present, where possible, or a police officer.

LEARNING ACTIVITIES:

1. Read Information Sheet 6-1-1 and pages 1-4 of IFSTA 104. List the steps necessary for removing and protecting valuable items from area.
2. Go to a business and a dwelling in your area and introduce yourself, explain salvage and ask the occupants to provide you with a list of priority items.

FIREFIGHTER TRAINING SHEET

TASK 6-2 (Continued):

EVALUATION:

Given a situation wherein valuables must be removed from the area and salvage cover, remove and protect valuable items from area.

1. All valuables must be secured within salvage cover and turned over to property owner or police.
2. A signed statement must be received from recepient of valuable items.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-3: Construct temporary water chute

NFPA: 4-6.1 THE FIREFIGHTER, GIVEN SALVAGE EQUIPMENT, AND OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL DEMONSTRATE THE CONSTRUCTION AND USE OF A WATER CHUTE.

TOOLS AND EQUIPMENT:

1. Pike poles
2. Canvas
3. Step ladder

LEARNING STEPS:

1. Secure pike poles and canvas.
2. Spread canvas on floor.
3. Place pike poles alongside of canvas and roll toward the middle.
4. Cease rolling poles when proper width is reached.
5. Place water chute on ladder or suitable incline with lip or edge slightly below water flow.
6. Secure chute in place with rope or rope hose tool.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Using the learning steps and the advice of a chief officer, practice building a temporary water chute.

EVALUATION:

Given canvas, pike poles, and step ladder, construct temporary water chute. Chute will carry desired amount of water away from designated area.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-4: Construct temporary water chute for window drain and stairway drain

NFPA: 4-6 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Pike poles
2. Step ladder
3. Canvas
4. Heavy twine or rope

LEARNING STEPS:

1. Secure pike poles in canvas.
2. Spread canvas on floor.
3. Place pike poles alongside of canvas and roll toward the middle.
4. Cease rolling poles when proper width is reached.
5. Place water chute on ladder or suitable incline with lip or edge slightly below water flow.
6. Secure chute in place with rope or rope hose tool.

NOTE: While there are several reasons for building water chutes, the two main reasons are to protect property from unnecessary water damage and prevent excess weight from building up.

LEARNING ACTIVITIES:

1. Study the two drawings in the handouts.
2. Collect the materials and tools listed and select a suitable location and construct a window drain chute and a stairway drain.

FIREFIGHTER TRAINING SHEET

TASK 6-4 (Continued):

EVALUATION:

Standards for window chute:

1. The center of the cover should be positioned under the leak or source of water.
2. The back of the chute must be considerably higher than the exit end, to provide a steady flow of water in the direction of the window.
3. The cross section of the chute is to be somewhat "U" shaped to ensure a channeled flow of water.
4. The lowest point in the salvage cover must be at the window sill. If the salvage cover is allowed to droop in the center and collect water, the weight of the water could eventually collapse the chute.
5. The cover must pass completely through the window opening to ensure that all water passes out the window.
6. Chute must carry at least one gallon of water out the window.

Standards for stairway drain:

1. Salvage covers must overlap so that water does not pass under cover.
2. Chute must flow one gallon of water from top to bottom without wetting stairs.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-5: Remove salvage covers

NFPA: 4-6.2 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Salvage covers

LEARNING STEPS:

1. Mop up excess water standing on covers.
2. Position persons at two corners on one end.
3. Raise cover off merchandise and walk to other end, pulling cover.
4. Drag cover to outside.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Watch a demonstration of salvage cover removal.
2. Using the learning steps, practice removing salvage covers.

EVALUATION:

Given building contents covered by salvage covers, remove salvage covers. Covers must be completely removed, leaving merchandise dry.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-6: Throw runner to protect floor

NFPA: 4-6.3 THE FIREFIGHTER, GIVEN SALVAGE EQUIPMENT BUT EXCLUDING SALVAGE COVERS, SHALL DEMONSTRATE THE REMOVAL OF DEBRIS, AND REMOVAL AND ROUTING OF WATER FROM A STRUCTURE.

TOOLS AND EQUIPMENT:

1. Floor runner

LEARNING STEPS:

1. Lay rolled up runner on floor.
2. Unroll slowly.
3. Place unused portion of roll underneath cover at the end.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Watch a demonstration of throwing a runner to protect a floor.
2. Using the learning steps, practice throwing floor runners.

EVALUATION:

Given a floor runner, unroll it and tuck unused portion under cover. Runner must cover and protect designated floor area. Upon removal, floor will contain no water stains or fresh scratch marks.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-7: Cover and block all hazardous areas

NFPA: 4-6.4 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT, SHALL DEMONSTRATE THE COVERING OR CLOSING OF OPENINGS MADE DURING FIREFIGHTING OPERATIONS.

TOOLS AND EQUIPMENT:

1. Barrier materials
2. Warning light

LEARNING STEPS:

1. Locate hazardous areas.

2. Gather barrier materials.

3. Place barriers around hazardous area.

4. Where necessary, spread canvas or like material over hazard.

5. Place WARNING signs on barriers.

6. Focus lights on warning signs.

7. Place warning lights around barriers.

   NOTE: Where necessary, post guard at hazard sight until premises are turned over to proper authorities.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Talk with your chief officer about what areas are considered hazardous and how they can be covered and blocked.

2. Using the learning steps, build a barrier.

FIREFIGHTER TRAINING SHEET

TASK 6-7 (Continued):

EVALUATION:

Given hazardous area to be made secure, place covers and block hazardous area.

1. All access routes to hazardous areas must be blocked by barrier.
2. Warning signs must be prominently displayed.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-8: Remove water using water vacuum

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Water vacuum
2. Squeegee

LEARNING STEPS:

1. Secure water vacuum and attachments.
2. Position tank and attachments at point of use.
3. Plug vacuum into outlet.
4. Attach squeegee to hose.
5. Turn vacuum on.
6. Extend squeegee to fullest extent and pull toward tank.

   CAUTION: Rubber boots and rubber gloves must be worn.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Work with a qualified firefighter to see how a water vacuum works.
2. Secure a vacuum, wet down a floor, and practice.

EVALUATION:

Given a drenched surface and water vacuum with attachments, remove water. All standing water must be removed from surface.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-9: Stack furniture

NFPA: 4-6 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Room full of furniture
2. Tools and equipment

LEARNING STEPS:

1. Move all furniture to middle of room, placing tallest pieces in center.
2. Roll up rug as furniture is moved.
3. Place one tall item of furniture at each end.
4. Place rug roll across items.
5. Place all other small items under rug.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Talk to your chief officer about the best techniques of stacking furniture.
2. Find a room full of furniture and practice stacking furniture.

EVALUATION:

Given a room of furniture, stack it so it may be totally covered with one salvage cover. Furniture cannot be wet when cover is removed.

FIREFIGHTER TRAINING SHEET

UNIT: Salvage

TASK 6-10: Build a water sump (catch-all)

NFPA: 4-6.2 THE FIREFIGHTER, GIVEN SALVAGE EQUIPMENT, AND OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL DEMONSTRATE THE CONSTRUCTION AND USE OF A WATER CATCH-ALL.

TOOLS AND EQUIPMENT:

1. Salvage covers
2. Pike poles
3. Crib blocks, cinder blocks, etc.

LEARNING STEPS:

1. Select site for catch-all.

   NOTE: Catch-alls are nothing but temporary storage areas for water. Usually they are built to prevent water from flowing into areas and causing damage. When collected the water can be removed by pump, siphon or bail. However, water collected in this manner can often be reused for firefighting.

2. Place blocks or debris to form basin.
3. Place salvage cover over form.
4. Direct water to catch-all.

RESOURCES:

Ohio Fire Service Training

Chief Officer

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration by chief officer.
2. Read salvage section in Ohio Fire Service Training.

FIREFIGHTER TRAINING SHEET

TASK 6-10 (Continued):

LEARNING ACTIVITIES (Continued):

3. Collect materials and construct catch-all.
4. List possible situations wherein a catch-all might be needed.

EVALUATION:

Given a situation wherein the flow of water must be stopped, stop the flow of water using catch-all. Water mut be collected in a catch-all basin.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-1: Identify sizes and types of hose

NFPA: 3-7.1 THE FIREFIGHTER, GIVEN AN APPROVED FIRE DEPARTMENT PUMPER, SHALL IDENTIFY THE SIZES, TYPES, AMOUNTS, AND USE OF HOSE CARRIED ON THAT PUMPER.

4-7.1 THE FIREFIGHTER, GIVEN AN APPROVED FIRE DEPARTMENT PUMPER, SHALL IDENTIFY, SELECT, AND DEMONSTRATE THE USE OF ANY NOZZLE CARRIED ON THAT PUMPER.

RESOURCES:

Ohio Fire Service Manual

Chief Officer

LEARNING ACTIVITIES:

1. Read appropriate pages in the Ohio Fire Service Manual.
2. Review the types and sizes of fire hose carried on your pumper.
3. Describe the following types of fire hose and explain what they are commonly used for:
    a. Unlined linen hose
    b. Rubber lined hose
    c. Rubber lined, rubber covered, reinforced hose
    d. Rubber lined, rubber covered

EVALUATION:

Identify by name all types and sizes of fire hose used by your department.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-2: Be familiar with types of fire hose couplings and how they work

NFPA: 3-7.2 THE FIREFIGHTER, GIVEN AN APPROVED FIRE DEPARTMENT PUMPER, SHALL IDENTIFY THE USE OF HOSE ADAPTORS, AND HOSE APPLIANCES CARRIED ON THAT PUMPER.

4-7.3 THE FIREFIGHTER SHALL DEMONSTRATE INSPECTION AND MAINTENANCE OF FIRE HOSE, COUPLINGS, AND NOZZLES; AND RECOMMEND REPLACEMENT OR REPAIR AS NEEDED.

RESOURCES:

IFSTA 103: Fire Hose Practices, 6th edition

Ohio Fire Service Training, 1980

NFPA 194, 1974

LEARNING ACTIVITIES:

1. In IFSTA 103, read pages 29-41.
2. Review pages 198-200 in the Ohio Fire Service Training Manual.
3. Work with a qualified firefighter and locate and identify all types of hose couplings in your working area.
4. For each type of hose coupling in your working area, be able to:
    - a. identify the parts of the coupling; and
    - b. demonstrate how they work

EVALUATION:

Be able to identify each type of hose coupling in your working area and demonstrate how they work.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-3: Advance dry line up ladder

NFPA: 3-7.3 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT AND OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL ADVANCE DRY HOSE LINES OF TWO DIFFERENT SIZES, BOTH OF WHICH SHALL BE 1½-INCH OR LARGER, FROM A PUMPER:

(a) into a structure
(b) up a ladder into an upper flow window
(c) up an inside stairway to an upper floor
(d) up an outside stairway to an upper floor
(e) down an inside stairway to a lower floor
(f) down an outside stairway to a lower floor
(g) to an upper floor by hoisting.

4-7.2 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT, SHALL DEMONSTRATE ALL HAND HOSE LAYS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Complete turnout gear
2. Rope base tool
3. Banger ladder
4. Hose and nozzle

LEARNING STEPS:

1. Drape nozzle over left shoulder so that nozzle hangs down back.
2. Have second person grasp hose 10 feet behind first person, forming loop over shoulder.
3. Direct third person to follow in like fashion.
4. Have nozzle person perform leg lock on ladder at desired height.

FIREFIGHTER TRAINING SHEET

TASK 7-3 (Continued):

LEARNING STEPS (Continued):

5. Tie line to ladder using hose tool at nozzle.
6. Direct second person to tie hose to ladder with hose tool.
7. Call for water.
8. When line is charged, open nozzle slowly, bleeding air.
9. When air is out of nozzle, open fully and direct at base of fire.

RESOURCES:

IFSTA 103

LEARNING ACTIVITIES:

1. Read pages 250-251 in In IFSTA 103.
2. Observe qualified firefighters advance a dry line up a ladder.
3. Working in teams of four or five persons, practice first advancing on flat ground before advancing a dry line up a ladder.

   CAUTION: Where practicable an experienced person should work in the advancement team. A good practice is for three or more experienced persons to assist the nozzle carrier.

EVALUATION:

Given dry line and rope hose tool, advance line up ladder.

1. Carrier must have both hands free to climb.
2. Nozzle must extend to end of ladder ready for use.
3. Line will perform designated function when charged.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-4: Advance charged lines up ladder

NFPA: 3-7.3 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT AND OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL ADVANCE DRY HOSE LINES OF TWO DIFFERENT SIZES, BOTH OF WHICH SHALL BE 1½-INCH OR LARGER, FROM A PUMPER:

(a) into a structure
(b) up a ladder into an upper flow window
(c) up an inside stairway to an upper floor
(d) up an outside stairway to an upper floor
(e) down an inside stairway to a lower floor
(f) down an outside stairway to a lower floor
(g) to an upper floor by hoisting.

3-7.4 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT AND OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL ADVANCE CHARGED ATTACK LINES OF TWO DIFFERENT SIZES, BOTH OF WHICH SHALL BE 1½-INCH OR LARGER, FROM A PUMPER:

(a) into a structure
(b) up a ladder into an upper flow window
(c) up an inside stairway to an upper floor
(d) up an outside stairway to an upper floor
(e) down an inside stairway to a lower floor
(f) down an outside stairway to a lower floor
(g) to an upper floor by hoisting.

4-7.2 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT, SHALL DEMONSTRATE ALL HAND HOSE LAYS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

FIREFIGHTER TRAINING SHEET

TASK 7-4 (Continued):

TOOLS AND EQUIPMENT:

1. Turnout gear
2. Rope hose tool
3. Ladder
4. Charged line

LEARNING STEPS:

1. Tie ladder into position.
2. Position three persons in line.
3. Turn nozzle off.
4. Grasp hose nozzle firmly and advance hose from ground to middle person.
5. Advance hose from middle person to top person.
6. Tie nozzle into position.

NOTE: This manuever is controversial to say the least. Some departments do not use it at all, while others use it frequently. However, all precautions should be taken to protect the persons advancing the line. EACH FIREFIGHTER ON THE LADDER MUST BE LEG LOCKED INTO PLACE. The hose should be advanced up the ladder in a pushing fashion since there are no hose flakes to be carried.

RESOURCES:

IFSTA 200

Ohio Fire Training Service

LEARNING ACTIVITIES:

1. Attend demonstration by a chief officer.
2. Read IFSTA 200, Chapter 5 and list all the reasons you can think of for advancing charged lines up ladders. List all the reasons you should.

FIREFIGHTER TRAINING SHEET

TASK 7-4 (Continued):

LEARNING ACTIVITIES (Continued):

3. Read page 230 of Ohio Fire Service Training and list the probable uses of the fire hose tool when advancing charged line up a ladder.

4. Practice advancing a charged line up a ladder.

EVALUATION:

Given ladder, charged hose, nozzle and hose tool, advance charged line up ladder. Line must be moved into position with no hesitation and tied so the nozzle person can direct stream.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-5: Anchor nozzle for charged line using rope hose tool

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Nozzle
2. Ladder
3. Rope hose tool
4. Turnout gear

LEARNING STEPS:

1. Remove rope hose tool from over shoulder position.
2. Pass hook over hose around ladder rung and pass hook through loop in rope hose hook.
3. Pull hook until loop is snug on hose, binding to ladder.

RESOURCES:

IFSTA 200

LEARNING ACTIVITIES:

1. Attend demonstration by chief officer.
2. Read IFSTA 200 Chapter 5 and practice anchoring nozzle using a rope hose tool.
3. Read Ohio Fire Service Training pages 192-195 and list advantages of using rope hose tool to secure nozzle.

EVALUATION:

Given a charged hose, nozzle ladder and rope hose tool, anchor nozzle for charged line using rope hose tool. When nozzle is positioned and water is flowing, nozzle can be controlled by nozzle person.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-6: Be familiar with care for fire hose couplings

NFPA: 3-7.5 THE FIREFIGHTER SHALL DEMONSTRATE CLEANING FIRE HOSE, COUPLINGS, AND NOZZLES; AND INSPECTING FOR DAMAGE.

4.7-3 THE FIREFIGHTER SHALL DEMONSTRATE INSPECTION AND MAINTENANCE OF FIRE HOSE, COUPLINGS AND NOZZLES; AND RECOMMEND REPLACEMENT OR REPAIR AS NEEDED.

RESOURCES:

Ohio Fire Service Training, 1980

IFSTA 103: Fire Hose Practices, 6th edition

LEARNING ACTIVITIES:

1. Read pages 172-173 in the Ohio Fire Service Training Manual on "Care of Hose Couplings" and "Hose Gaskets for Couplings."
2. IFSTA Manual 103 has a brief description of cleaning hose couplings on page 20. Also, on pages 42-44 there is a section on "Care of Fire Hose Couplings."
3. Be sure you can describe and/or explain the following:
   - a. the rules for the care of fire hose couplings;
   - b. The two types of coupling gaskets and their differences;
   - c. The two types of coupling gaskets and how to remove, check, and replace each;
   - d. how to clean hose couplings;
   - e. how to straighten slightly damaged threads; and
   - f. the reasons for different threads.
4. Work with other firefighters who are familiar with hose coupling care and be sure you can handle all the items in activity three.

FIREFIGHTER TRAINING SHEET

TASK 7-6 (Continued):

EVALUATION:

1. Pass a written or oral test, according to your department's standards, on care of hose couplings including:
   - a. the rules
   - b. gaskets
   - c. cleaning
   - d. threads
2. Given the needed tools and equipment, demonstrate to a qualified firefighter:
   - a. how to remove, check and replace coupling gaskets;
   - b. how to clean hose couplings; and
   - c. how to straighten slightly damaged threads.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-7: Attach nozzle to hose

NFPA: 4-7.1 THE FIREFIGHTER, GIVEN AN APPROVED FIRE DEPARTMENT PUMPER, SHALL IDENTIFY, SELECT, AND DEMONSTRATE THE USE OF ANY NOZZLE CARRIED ON THAT PUMPER.

TOOLS AND EQUIPMENT:

1. Hose
2. Nozzle
3. Gaskets

LEARNING STEPS:

1. Check condition of gaskets.
2. Place male fitting between feet so that fitting end points upward.
3. Position nozzle over fitting and hand tighten clockwise.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend demonstration by chief officer.
2. Practice attaching nozzle to hose.

EVALUATION:

Given an uncharged line, spare gaskets, spanner wrench, and nozzle, attach nozzle to hose. Connection will not leak.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-8: Perform pressure test for hose

NFPA: 4-7.2 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT, SHALL DEMONSTRATE ALL HAND HOSE LAYS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. New and old hose to be tested
2. Marking tools set
3. Tag
4. Water supply
5. Space to lay hose for testing

LEARNING STEPS:

1. Lay hose out.
2. Connect pumper to water supply.
3. Connect hose to discharge connection on pumper.
4. Attach nozzle to each hose to be tested.
5. Fill each line with water and open nozzle.
6. Set pressure.
7. Reduce pump pressure slowly and close nozzles.
8. Gradually raise pressure.
9. Tag defective hose.

RESOURCES:

IFSTA 103, 5th edition

NFPA 198, NFPA 196, NFPA 194

NOTE: With few exceptions it was generally felt by the various committees working on this curriculum that several subtasks concerning care and maintenance of fire hoses can be taught in conjunction with "Perform pressure test for hose," specifically "Service test for fire hose" and "Construct hose record card file."

FIREFIGHTER TRAINING SHEET

TASK 7-8 (Continued):

LEARNING ACTIVITIES:

1. Read IFSTA 103, Fire Hose Testing, pages 19-24 and answer the following questions:
   a. Why is it necessary to test both old and new hoses?
   b. When testing new hose, what specific things should be performed before testing begins?
   c. What is the maximum length of time that a hose should go without testing?
   d. When is it necessary to test more often than once a year?
   e. What minimum P.S.I. is recommended by the National Insurance Association for testing?
   f. When conditions of service require unusually high pressures, how high should the test pressure be above the minimum?
   g. What is the reason for marking the hose at the end of each coupling with a soft pencil?

2. Read NFPA 198, Chapter 8, Miscellaneous Information pages 36-46.
   a. Request the hose records for your company, and using the records, locate all new hose which has been tested.
   b. Locate all hoses that have been tested more than once.
   c. Locate the service date of each hose.

3. Read NFPA 194, Fire Hose Connections, and:
   a. Check all coupling and nozzles in your station to see if they meet NFPA 194 standards.
   b. With permission, check the couplings of your company to see if they are compatible with the fire company nearest your station.

4. Attend a demonstration given by your training officer and take notes. Join in a discussion of hose care.

EVALUATION:

Given hose and a pumper, perform pressure test for new hose. All defective hoses must be culled from good hose, tagged, and reported to officer in charge. Record all hose tested and mark card for each section of hose tested and if repair is needed list it on the card.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-9: Connect hose to hydrant and open hydrant

NFPA: 3-7.6 THE FIREFIGHTER SHALL DEMONSTRATE THE CONNECTION OF FIRE HOSE TO A HYDRANT, AND THE OPERATION OF FULLY OPENING AND CLOSING THE HYDRANT.

4-7.4 THE FIREFIGHTER SHALL DEMONSTRATE ALL HYDRANT/PUMPER CONNECTIONS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Hose
2. Gaskets
3. Hydrant wrench

LEARNING STEPS:

1. Check coupling for gasket.
2. Grasp hose with hand farthest from the hydrant.
3. When apparatus is stopped, step off apparatus with ample hose.
4. Wrap hose clockwise around hydrant.
5. Place foot on hose next to coupling and hold until ready to make connection.
6. Loosen hydrant cap.
7. Place wrench on operation nut on top of hydrant.
8. Remove hydrant cap. Check all other caps for tightness.
9. Unwind hose from hydrant.

FIREFIGHTER TRAINING SHEET

TASK 7-9 (Continued):

LEARNING STEPS (Continued):

10. Make hose connection and when signal for water is given, charge line.

    AUTHOR'S NOTE: To the novice this seems like a simple enough task to do and it is after some practice. Such things as cross threading, leaks and broken lines occur when hooking lines to hydrants. Care must be taken to feel the water as the valve opens and the water rushes into the hose.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Study the learning steps.
3. Practice hooking hose up and charging line.

EVALUATION:

Given hydrant wrench and end of hose fold, connect hose to hydrant and open hydrant.

1. Water must be supplied to hose person upon command.
2. There can be no leaks or hose kinks at hydrant.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-10: Apply chafing block to hose

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Chafing block
2. Hose line, charged

LEARNING STEPS:

1. Determine spot on hose where friction is greatest.
2. Secure chafing block.
3. Place block on hose at designated point.
4. Clamp block into position.
5. Check from time to time.

RESOURCES:

Ohio Fire Service Training

IFSTA 103: Fire Hose Practices

AUTHOR'S NOTE: Hose chafe occurs most often where a bow in a line is allowed to rub freely as against the corner of a brick building or over the top edge of a chain link fence. The maneuvering at the nozzle end can cause places in the lines to chatter or vibrate, this is especially true in bowed areas. If these chafing areas are not tended to they can cause a hose rupture. The chafing block actually plays two parts. 1) it weights the line, cutting down on vibration, 2) it acts as a barrier between the hose and the rubbing surface. Manufactured blocks can be bought that will fit almost any hose size. If a hose block is not readily available you can improvize by wrapping an old coat around the hose at the chafing point or you may

FIREFIGHTER TRAINING SHEET

TASK 7-10 (Continued):

RESOURCES (Continued):

AUTHOR'S NOTE: tie a heavy object to the hose. A cinder block is one example. You should, however, be cautious in wrapping wire around hose lines for fear they may cause the line to rupture.

LEARNING ACTIVITIES:

1. Read page 55 of IFSTA 103 and/or pages 166-167 of Ohio Fire Training Service.
2. List as many places as you can where chafing blocks may be necessary in the territory covered by your company.
3. Try applying a chafing block to hose until you feel familiar with the process.

EVALUATION:

Given charged line which is chafing and chafing block, apply chafing block to hose. Hose will no longer chafe.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-11: Construct flat load

NFPA: 3-7.7 THE FIREFIGHTER SHALL DEMONSTRATE THE LOADING OF FIRE HOSE ON FIRE APPARATUS AS PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION; AND SHALL ALSO IDENTIFY THE PURPOSE OF AT LEAST THREE TYPES OF HOSE LOADS AND FINISHES.

TOOLS AND EQUIPMENT:

1. Hose section
2. Truck bed

LEARNING STEPS:

1. Check each coupling for gaskets.
2. Place either end of hose in any corner of hose bed.
3. Fold hose back and forth the length of bed with flat side lying on the bed.
4. Repeat until hose is loaded.

RESOURCES:

IFSTA 103, 6th edition

LEARNING ACTIVITIES:

1. Read page 175 of IFSTA 103.
2. Attend demonstration on the loading procedure for the flat load.
3. Practice constructing the flat load.

EVALUATION:

Given hose and truck bed, construct flat load. When either male or female end is held tightly, hose must advance without delay.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-12: Load Horseshoe or "U" load

NFPA: 3-7.7 THE FIREFIGHTER SHALL DEMONSTRATE THE LOADING OF FIRE HOSE ON FIRE APPARATUS AS PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION; AND SHALL ALSO IDENTIFY THE PURPOSE OF AT LEAST THREE TYPES OF HOSE LOADS AND FINISHES.

TOOLS AND EQUIPMENT:

1. Hose section
2. Hose bed

LEARNING STEPS:

1. Check couplings for gaskets.
2. Place male coupling in upper right hand corner.
3. Stand hose on edge and extend it to the rear of bed.
4. Bend hose and place second length beside starter section.
5. Extend hose across bed closest to cab and down opposite side.
6. Bend hose and repeat maneuver until load is finished.
7. Make crossover to the second tier at the front of hose bed by placing the last fold from the center flat on the load and extend it toward the front right hand corner.
8. At this corner, turn the hose on edge, bring hose across the front of bed.
9. Resume loading.

RESOURCES:

IFSTA 103, 6th edition

Ohio's Fire Service Training

NFPA 198

FIREFIGHTER TRAINING SHEET

TASK 7-12 (Continued):

LEARNING ACTIVITIES:

1. If needed, review the general information on hose loads on page 189 of the Ohio Fire Service Training or pages 164-165 in IFSTA 103. Be sure to get any questions you might have answered.
2. Pages 177-178 in the Ohio Fire Service Training and pages 178-181 in IFSTA 103 and pages 44-46 of NFPA 198 provide specific information and diagrams on the "Horseshoe" or "U" load. Review either or both and become familiar with the process.
3. Attend a demonstration of the "Horseshoe" or "U" load. Be sure to note all details.
4. Practice preparing the "Horseshoe" or "U" load until you can do it efficiently and effectively.

EVALUATION:

Given hose and hose bed, load horseshoe or "U" load. Hose must be advanced without any hang-ups.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-13: Construct combination load

NFPA: 3-7.7 THE FIREFIGHTER SHALL DEMONSTRATE THE LOADING OF FIRE HOSE ON FIRE APPARATUS AS PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION; AND SHALL ALSO IDENTIFY THE PURPOSE OF AT LEAST THREE TYPES OF HOSE LOADS AND FINISHES.

TOOLS AND EQUIPMENT:

1. Divided hose bed
2. 50 feet of hose
3. Gaskets

LEARNING STEPS:

1. Check coupling for gasket.
2. Place male at rear of hose bed.
3. Leave coupling short distance from divider.
4. Load hose in accordion fashion, placing female at rear of hose bed.

RESOURCES:

IFSTA 103, 6th edition

Ohio Fire Service Training, 1980

LEARNING ACTIVITIES:

1. Read pages 241-247 in IFSTA 103 and answer the following questions:
    a. How did "combination load" get its name?
    b. How does the "combination load" differ from the preconnected flat load?
2. Become familiar with the "combination load" and be able to describe how to construct it.

FIREFIGHTER TRAINING SHEET

TASK 7-13 (Continued):

LEARNING ACTIVITIES (Continued):

3. Review "combination load" on page 179 of Ohio Fire Service Training.
4. Attend a demonstration on constructing a "combination load."
5. Practice constructing the "combination load" until you become proficient at it.

EVALUATION:

Given divided hose bed and hose, construct combination load. When either end of stack is grasped, hose will play out smoothly without fouling either layered, straight, or reverse lay.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-14: Construct accordion and/or accordion divide load

NFPA: 3-7.7 THE FIREFIGHTER SHALL DEMONSTRATE THE LOADING OF FIRE HOSE ON FIRE APPARATUS AS PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION; AND SHALL ALSO IDENTIFY THE PURPOSE OF AT LEAST THREE TYPES OF HOSE LOADS AND FINISHES.

TOOLS AND EQUIPMENT:

1. Divided hose bed
2. Hoses
3. Couplings
4. Spanner wrench
5. Spare gaskets

LEARNING STEPS:

1. Check coupling for gasket.
2. Place male coupling in right front corner of bed.
3. Stand hose on edge.
4. Extend hose to end of bed and fold hose back toward front of hose bed.
5. Stagger fold length by shortening every other one.
6. Make short fold at end of hose.
7. When first layer is completed, gradually raise the last fold from front to rear of hose bed.

   CAUTION: If coupling breaks in bend, use a Dutchman.

RESOURCES:

NFPA 198: Maintenance and Care of Fire Hoses

IFSTA 103: Fire Hose Practices

Ohio Fire Service Training: Hose Loads

FIREFIGHTER TRAINING SHEET

TASK 7-14 (Continued):

LEARNING ACTIVITIES:

1. Read and study pages 47-48 of NFPA 198.
2. In IFSTA 103, read pages 164-169 and explain the advantages of the accordion load.
3. Read pages 178-179 in Ohio Fire Service Training and explain the advantages of the accordion divide load.
4. Locate areas in your territory where the accordion divide load is preferrable over the accordion load and list reasons why.
5. Attend a demonstration on hose loading using the accordion and/or the accordion divide load.
6. Practice constructing accordion and/or accordion divide loads.

EVALUATION:

Given divided hose bed and hose with couplings, construct accordion divide load. When coupling is held firmly, truck must pull away while hose plays out smoothly, without catching or fouling.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-15: Fold accordion fold

NFPA: 3-7.7 THE FIREFIGHTER SHALL DEMONSTRATE THE LOADING OF FIRE HOSE ON FIRE APPARATUS AS PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION; AND SHALL ALSO IDENTIFY THE PURPOSE OF AT LEAST THREE TYPES OF HOSE LOADS AND FINISHES.

TOOLS AND EQUIPMENT:

1. Section of hose
2. Rope hose tool

LEARNING STEPS:

1. Stretch hose into straight line.
2. Carry one coupling to middle of section.
3. Pick up hose near center with same hand and advance to the other coupling.
4. Pull and adjust loop until the two loops at the other end are even.
5. Pull both couplings until they are even with the adjusted loop.
6. At center of folded hose, stand folds on edge.
7. Squeeze closely together with both hands.
8. Place one foot across the hose and use it as pivot to swing ends around to the coupling ends.
9. Pick up the new fold at the center and allow both ends to rest on the ground.
10. Tie fold in center.

RESOURCES:

Ohio Fire Service Training

IFSTA 103: Fire Hose Practices, 6th edition

FIREFIGHTER TRAINING SHEET

TASK 7-15 (Continued):

LEARNING ACTIVITIES:

1. Be sure you are familiar with the general information on hose folds (see page 177 of Ohio Fire Service Training) and then review the information on the accordion fold (pages 178-179 Ohio Fire Service Training). Write down any questions you have and discuss them with someone knowledgeable on the accordion fold.
2. In IFSTA 103, there is general information on basic hose folds on pages 164-165. Review this information and then study pages 166-169 on the accordion fold. Get any questions you may have answered by your training officer.
3. Have some knowledgeable person demonstrate the accordion fold.
4. Practice the accordion roll until you become proficient at it.

EVALUATION:

Given a section of hose and rope hose tool, fold accordion fold. When hose section is used, hose must unfold without tangling.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-16: Construct single donut roll

NFPA: 3-7.8 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST THREE HOSE ROLLS AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. 50 foot hose with coupling and gasket

LEARNING STEPS:

1. Check each coupling for gaskets.
2. Stretch hose flat.
3. Start the roll from a point 5 or 6 feet off center toward the male coupling.
4. Roll toward female end.

RESOURCES:

IFSTA 103, 6th edition

Ohio Fire Service Training

LEARNING ACTIVITIES:

1. Read pages 181-184 in the Ohio Fire Service Training.
2. List the uses for the donut roll.
3. List the storage and carrying compartment for donut roll in your station.
4. List precautions necessary when performing with donut rolls.
5. Read IFSTA 103 pages 59-62.
6. Survey your territory and list the possible uses for a donut roll.

FIREFIGHTER TRAINING SHEET

TASK 7-16 (Continued):

LEARNING ACTIVITIES (Continued):

7. Attend a demonstration of both the "one person" method and the "two person" method of making the donut roll.
8. Practice the "one person" donut roll.
9. Practice the "two person" donut roll.

EVALUATION:

Given hose with coupling, construct single donut roll.

1. Male coupling must be protected by hose roll.
2. When grasped by either end, hose must play out without fouling.
3. Space sufficient for inserting hand must be left in center.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-17: Construct twin donut roll

NFPA: 3-7.8 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST THREE HOSE ROLLS AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. 50 foot length hose with couplings
2. Length of rope
3. Gaskets

LEARNING STEPS:

1. Check fitting for gaskets.
2. Place male and female couplings together and lay hose flat.
3. Fold the loop end over and upon the two lines.
4. Start roll.
5. Roll both lines simultaneously toward coupling ends.
6. Loop short piece of rope through roll and tie using quick-release hitch.

RESOURCES:

IFSTA 103, 6th edition

LEARNING ACTIVITIES:

1. Read pages 60-78 of IFSTA 103.
2. Survey your territory and list the places where a twin donut roll may be used.
3. Attend a demonstration on making the twin donut roll.
4. Practice making the twin donut roll.

FIREFIGHTER TRAINING SHEET

TASK 7-17 (Continued):

EVALUATION:

Given a length of hose with couplings and a length of rope, construct twin donut roll.

1. Rolls must be so secure and compact that when dropped from shoulder height, they will not break apart and couplings should be on top of roll where rope ties.
2. When quick-release hitch is pulled, hose must unroll ready for use.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-18: Construct self-locking hose roll

NFPA: 3-7.8 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST THREE HOSE ROLLS AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

LEARNING STEPS:

1. Secure hose.
2. Check connections for gaskets.
3. Place male and female couplings together.
4. Lay hose flat without twist to form parallel lines.
5. Place one person at both ends of parallel lines of hose.
6. Move on side of hose up and over to the opposite side of hose without turning.
7. Facing couplings, bring back side of loop forward toward the couplings and place it on top of where hose crosses, forming loop on each side of hose.
8. Roll both rolls side by side.
9. With couplings on top of rolls, pull longest loop slightly and carry hose over roll and through loop.
10. Tighten.

RESOURCES:

IFSTA 103, 6th edition

LEARNING ACTIVITIES:

1. Read IFSTA 103, 6th edition, pages 73-78.
2. Attend demonstration on making the self-locking hose roll.
3. Practice making self-locking hose roll.

FIREFIGHTER TRAINING SHEET

TASK 7-18 (Continued):

EVALUATION:

Given hose section, construct self-locking hose roll.

1. Hose must be secured only be a portion of the hose itself.
2. With loop placed over the shoulder, hose must be transportable.
3. Hose must not unravel when being transported.
4. Every person must make his/her hose roll so that the loop, when fastened over the shoulder, must allow the hose to rise at a convenient level for carrying.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-19: Carry hose, one-person carry

NFPA: 3-7.9 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST TWO HOSE CARRIES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Turnout gear
2. Hose section

LEARNING STEPS:

1. Check couplings for gaskets.

2. Stretch hose out full length.

3. Pick up either coupling end and drape over inside shoulder with coupling just above waist.

4. Walk two steps past other coupling, turn and pick coupling up.

5. With twist of wrist, place coupling over other shoulder.

   CAUTION: Male coupling must hang slightly below female coupling to protect threads.

6. While holding hose against chest, walk toward center loop.

7. Pick up center loop with both hands, place it back over head, resting hose on back of neck and shoulders.

   NOTE: When climbing ladder, loops fall outside the ladder beams.

RESOURCES:

IFSTA 200

FIREFIGHTER TRAINING SHEET

TASK 7-19 (Continued):

LEARNING ACTIVITIES:

1. Read pages 125-149 of IFSTA 200 and list the number of ways one person may carry a hose.
2. Attend a demonstration by chief officer.
3. List precautions to take when performing one-person carry.
4. Practice the one-person hose carry.

EVALUATION:

Given a single hose section, carry hose using one-person carry.

1. Hose must be transported while one hand is free.
2. There can be no damage to male coupling.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-20: Carry hose, using hose strap

NFPA: 3-7.9 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST TWO HOSE CARRIES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Hose length
2. Turnout gear
3. Hose strap

LEARNING STEPS:

1. Wrap hose strap slightly forward of coupling.
2. Slip strap through split link and tighten strap on hose.
3. Grasp combination hook and handle and stand erect facing in direction of advancement.

NOTE: This is another task that looks simple but one that can become a nightmare. You should practice this alone and as a team member until you can do it smoothly without thinking.

RESOURCES:

Chief Officer

IFSTA

LEARNING ACTIVITIES:

1. Attend demonstration by chief officer.
2. Read of IFSTA 200 pages 154-159.
3. Practice carrying hose using hose strap.

FIREFIGHTER TRAINING SHEET

TASK 7-20 (Continued):

EVALUATION:

Given a length of hose and a hose strap, carry hose using hose strap.

1. Hose strap must be secure to hose so that split link does not slip.
2. Hose must advance without coupling dragging ground or pavement.

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FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-21: Couple hose (two persons)

NFPA: 3-7.11 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST TWO METHODS OF COUPLING AND UNCOUPLING FIRE HOSE AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Turnout gear
2. Hose gaskets
3. Two length of hose

LEARNING STEPS:

1. Jointly grasp coupling and face each other.
2. Bend hose directly in back of male coupling.
3. Hold male coupling tightly against midsection until person holding swivel coupling brings coupling to alignment and tightens swivel.

NOTE: This is another instance where the task looks simple but really is not. In the excitement of a fire, valuable time can be lost if two inexperienced persons try this maneuver for the first time.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Practice until you can perform this task in ten seconds or less.
3. List the number of situations wherein the coupling might be necessary.

FIREFIGHTER TRAINING SHEET

TASK 7-21 (Continued):

EVALUATION:

Given two lengths of uncoupled hose, couple hose using two persons.

1. Coupling must be made in 10 seconds or less.
2. There can be no leaks.
3. Holder cannot look at coupling.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-22: Couple hose between feet

NFPA: 3-7.11 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST TWO METHODS OF COUPLING AND UNCOUPLING FIRE HOSE AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Two lengths of hose
2. Hose gaskets

LEARNING STEPS:

1. Stand facing two couplings.
2. Cradle male coupling between feet, opening up.
3. Grasp female end with one hand behind coupling.
4. Place the other hand on coupling swivel.
5. Bring couplings together and turn swivel with thumb.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend demonstration by the chief officer.
2. Determine why you would couple a hose between your feet and under what conditions.
3. Practice coupling hose between feet until you can do it in ten seconds or less.

EVALUATION:

Given two lengths of hose, couple hose between feet.

1. Coupling must be made in 10 seconds or less.
2. There can be no leaks.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-23: Couple hose by coupling tilt

NFPA: 3-7.11 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST TWO METHODS OF COUPLING AND UNCOUPLING FIRE HOSE AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Two lengths of hose
2. Hose gaskets

LEARNING STEPS:

1. Stand facing two couplings with one foot near the male end.
2. Place foot directly behind male coupling.
3. Apply pressure.
4. Position feet well apart.
5. Grasp female end with other hand behind coupling.
6. Place female coupling over male and tighten sleeve with thumb.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend demonstration by chief officer.
2. Practice coupling hose by coupling tilt until you can do it in ten seconds or less.

EVALUATION:

Given two lengths of hose, couple hose by coupling tilt.

1. Coupling must be made in 10 seconds or less.
2. There can be no leaks.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-24: Couple hose fold over

NFPA: 3-7.11 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST TWO METHODS OF COUPLING AND UNCOUPLING FIRE HOSE AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Two lengths of hose
2. Spanner wrench
3. Gaskets

LEARNING STEPS:

1. Grasp male coupling.
2. Fold hose back on itself.
3. Bring male end back to end of fold.
4. Stand facing the two couplings and place one foot directly behind the male coupling.
5. Apply pressure.
6. Position feet well apart.
7. Grasp female end behind coupling and place other hand on coupling swivel.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend demonstration by chief officer.
2. Practice coupling hose fold over until you can do it in ten seconds or less.

FIREFIGHTER TRAINING SHEET

TASK 7-24 (Continued):

EVALUATION:

Given two sections of hose to be coupled, couple hose by fold over.

1. Coupling must be made in 10 seconds or less.
2. There can be no leaking.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-25: Couple hose hand to hand

NFPA: 3-7.11 THE FIREFIGHTER SHALL DEMONSTRATE AT LEAST TWO METHODS OF COUPLING AND UNCOUPLING FIRE HOSE AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Two hoses
2. Gaskets
3. Spanner wrench

LEARNING STEPS:

1. Grasp the female coupling in one hand with hose straight behind.
2. Bend right knee slightly and lay hose across thigh.
3. Cradle male coupling in other hand, bring the two couplings together and turn the swivel with thumb to make connection.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend lecture/demonstration by chief officer.
2. Practice performing coupling hose hand to hand.

EVALUATION:

Given two sections of hose, couple hose.

1. Coupling must be made in 10 seconds or less.
2. There can be no water leaks.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-26: Replace hose coupling (expansion ring type)

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Length of hose with ruptured or leaking coupling
2. New coupling
3. Hose expander

LEARNING STEPS:

1. Cut hose evenly.
2. Place expansion ring inside of hose until flush with cup.
3. Slip expansion ring on hose into bowl of coupling.
4. Insert expander into coupling.
5. Using hose expander, apply pressure.
6. Test hose for leaks.

RESOURCES:

IFSTA 103: Fire Hose Practices

Pressure guide for coupling and hose expander

LEARNING ACTIVITIES:

1. On pages 33-40 in the IFSTA Manual 103, directions are given for attaching the expansion ring type coupling and the bar-way coupling. Check in your working area and see which type of coupling is used and review the appropriate method.
2. With the assistance of a qualified firefighter, locate the necessary equipment and any additional available written instruction and replace a hose coupling.
3. Once you have been instructed in successfully replacing a coupling, as repairs are needed, practice the process until you can do it efficiently.

FIREFIGHTER TRAINING SHEET

TASK 7-26 (Continued):

EVALUATION:

Given a length of hose with ruptured or leaking coupling, new coupling and hose expancer, replace hose coupling.

1. When changed, hose cannot leak or break loose.
2. There can be no cracks in new coupling.
3. Test hose as outlined for hose test.
4. Record on hose card.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-27: Use hose jacket to cover rupture or coupling

NFPA: 3-7 - 4-3 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Hose jacket
2. Charged line
3. Hose coupling

LEARNING STEPS:

1. Locate rupture in hose.
2. Open hose jacket and lay beside rupture point.
3. Lift hose into jacket, placing rupture in middle of jacket.
4. Close jacket securely and operate locking mechanisms.

RESOURCES:

IFSTA 200

Chief Officer

LEARNING ACTIVITIES:

1. Read IFSTA 200 pages 112-114 and list the reasons why a hose jacket tool might be used.
2. Attend demonstration by chief officer.
2. Secure a faulty hose and practice shutting off leak using a hose jacket tool.

EVALUATION:

Given a hose jacket and hose leaking at coupling or in line, use hose jacket to cover rupture or coupling. Water leakage must be stopped for duration of hose usage.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-28: Lay line from hose truck forward or reverse

NFPA: 3-7.13 THE FIREFIGHTER SHALL DEMONSTRATE THE METHODS OF CARRYING HOSE INTO A BUILDING TO BE CONNECTED TO A STANDPIPE, AND THE METHODS OF ADVANCING A HOSE LINE FROM A STANDPIPE, AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Hydrant wrench
2. Hose truck
3. Hose
4. Turnout gear

LEARNING STEPS:

1. Get hose connection and hydrant wrench ready while enroute.
2. Pull apparatus close to curb at hydrant and come to complete stop.
3. Remove supply of hose.
4. Loop hose around hydrant.
5. Place foot on hose near coupling and apply weight.
6. Pull truck away slowly toward fire.
7. Reverse lay from pumper to hydrant.

RESOURCES:

IFSTA 200

Chief Officer

LEARNING ACTIVITIES:

1. Attend lecture/demonstration by chief officer on laying line from hose truck.

FIREFIGHTER TRAINING SHEET

TASK 7-28 (Continued):

LEARNING ACTIVITIES (Continued):

2. List the number of things that can go wrong and foul this operation.
3. List all safety precautions.

EVALUATION:

Given a loaded hose truck and hydrant, lay line from hose truck.

1. Line must be fully laid without kinking.
2. Reverse lay must begin and end with female coupling.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-29: Lay short line, hand straight-away

NFPA: 3-7.13 THE FIREFIGHTER SHALL DEMONSTRATE THE METHODS OF CARRYING HOSE INTO A BUILDING TO BE CONNECTED TO A STANDPIPE, AND THE METHODS OF ADVANCING A HOSE LINE FROM A STANDPIPE, AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Hose
2. Turnout gear
3. Pumper

LEARNING STEPS:

1. Secure nozzle and end of hose.
2. Advance from truck, stop and fasten nozzle.
3. Slide on shoulder under hose and place nozzle on back and head for fire.
4. Grasp remaining hose at coupling and advance behind nozzle person as hose unfolds.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Read IFSTA 200 pages 119-159.
2. Attend demonstration by chief officer and list the instances where this task may be used.
2. Practice laying short line, hand straight-away.

EVALUATION:

Given loaded hose, nozzle and crew, lay short lines by hand straight-away. Hose must advance to position in 30 seconds or less.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-30: Perform line setup while charged

NFPA: 3-7 12 THE FIREFIGHTER, GIVEN THE NECESSARY EQUIPMENT AND OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL DEMONSTRATE THE METHOD OF WORKING FROM A LADDER WITH CHARGED ATTACK LINES OF TWO DIFFERENT SIZES, BOTH OF WHICH SHALL BE A 1½-INCH OR LARGER, FROM A PUMPER.

TOOLS AND EQUIPMENT:

1. Full turnout gear

LEARNING STEPS:

1. Shut nozzle off.
2. Place hand behind hose.
3. Advance line.
4. Anchor hose.
5. Open nozzle slowly.

RESOURCES:

Chief Officer

Ohio Fire Training Service

LEARNING ACTIVITIES:

NOTE: This is another of those evolutions that seem deceptively simple but is not. No two situations are ever the same, so it is our aim to cause the firefighter to envision every conceivable situation in which they may find themselves while doing this task.

1. Attend a demonstration by chief officer.
2. Read pages 192-195 in Ohio Fire Service Training.

FIREFIGHTER TRAINING SHEET

TASK 7-30 (Continued):

LEARNING ACTIVITIES (Continued):

3. List the things which can go wrong while performing this task.
4. List the reasons for this task.
5. List the times when you feel this task would not be used.

EVALUATION:

Given a charged line, perform line setup while charged.

1. Hose line must be repositioned.
2. When nozzle is opened, control of line must be retained.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-31: Name the working parts of a typical pumper and trace the flow of water through it

NFPA: 3-7 NO SPECIFIC STANDARD

RESOURCES:

IFSTA 106

LEARNING ACTIVITIES:

1. Read Operating Fire Department Pumpers pages 51-102 in IFSTA 106.
2. Make a line drawing of a pumper and label each part.
3. Locate all pumpers which you might use and list any operating differences.

EVALUATION:

Given a line drawing of a standard, self-propelled pumper, label each part that has a function in the operation procedure and trace the flow of water with complete accuracy.

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FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-32: Name and explain the functions of the various types of pumps used in fire service

NFPA: NO SPECIFIC STANDARD

RESOURCES:

IFSTA 106

Line drawing of the various types of pumps used in fire service

LEARNING ACTIVITIES:

1. Read pages 51-102 in IFSTA 106, Operating Fire Department Pumpers, and list features and functions of pumpers. List the features of each of the following pumps:
   - a. centrifugal pump
   - b. single stage centrifugal pump
   - c. multi-stage centrigual pump
   - d. rotary gear (positive) pump
   - e. rotary vane pump
   - f. piston pump
2. Explain the difference between volume and pressure positions and valves.
3. Explain the difference between small, moderate, and large volume pumps. Define the use of each.
4. List the location of each type of pump you will be required to work with.

EVALUATION:

Given line drawings of the various types of pumps used in fire service, label each pump and describe its function.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-33: Flow test fire hydrant visually

NFPA: 3-7 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Hydrant wrench
2. Gaskets
3. Hose

LEARNING STEPS:

1. Remove all caps from hydrant.
2. Open hydrant slowly.
3. Check for loose hydrant caps and damaged threads.
4. Check water flow part.
5. Check for debris.
6. Record findings.
7. Close hydrant.
8. Drain hydrant.
9. Report findings to proper authority.
10. Fill out fire hydrant record file.

LEARNING ACTIVITIES:

1. Read pages 102-114 of Ohio Fire Service Training.
2. List reasons for flow testing fire hydrants.
3. Attend a demonstration on flow testing fire hydrants.
4. Practice flow testing fire hydrants.

FIREFIGHTER TRAINING SHEET

TASK 7-33 (Continued):

EVALUATION:

Given hydrant wrench and functioning hydrant, visually flow test hydrant.

1. All debris and obstructions must be removed from hydrant.
2. All matter coming from hydrant must be properly channeled so as not to do harm to surrounding property.
3. Hydrant caps must be replaced and tightened.
4. Check hydrant gaskets, replace if needed.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-34: Fasten rope hose tool as life belt

NFPA: 5-7 NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Rope hose tool
2. Rope
3. Ladder

LEARNING STEPS:

1. Ascend ladder to designated height.
2. Lock leg.
3. Place loop end of hose tool in one hand.
4. Pass hook over small of back.
5. Pass hook through loop.
6. Pass hook end over rung in front.
7. Fasten hook over both strands of rope on loop side

RESOURCES:

Chief Officer or Guest Lecturer

CAUTION: This task is one of the controversial things which one is either for or against. However, many consultants working on this project agree that it should be taught.

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration by chief officer.
2. List all the reasons one may find need for using this task.
3. List all the safety hazards one may encounter in this operation.

FIREFIGHTER TRAINING SHEET

TASK 7-34 (Continued):

EVALUATION:

Given a rope hose tool and positioned ladder, fasten rope hose tool as lift belt. When firefighter leans backward, rope distance from ladder to firefighter will be ample to permit freedom of movement.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Hose, Nozzles and Appliances

TASK 7-35: Back flush pumper

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Hydrant wrench
2. Complete pumper
3. Hydrant or other source of water

LEARNING STEPS:

1. Secure tools.
2. Remove cap from all 2½" discharge connections.
3. Remove cap from lay intake on pumper.
4. Remove cap from hydrant.
5. Attach 2½" hose to hydrant outlet.
6. Using 2½" double female, attache hose to 2½" outlet from pumper.
7. Open 2½" discharge.
8. Open hydrant slowly.
9. Start pump motor and put pumper into gear.

RESOURCES:

IFSTA 106

LEARNING ACTIVITIES:

1. Read and study the IFSTA 106 page 72 and performance guide on back flushing a pumper and be able to draw a diagram of the process and explain it.
2. Attend a demonstration on back flushing a pumper.
3. Practice back flushing a pumper under the supervision of the training officer until you become proficient at it.

FIREFIGHTER TRAINING SHEET

TASK 7-35 (Continued):

EVALUATION:

Given hydrant wrench, complete pumper and hydrant or other source of water, back flush pumper.

1. Water must run clear and to full capacity.
2. All debris must be disposed of without damage to surrounding property.

AUTHOR'S NOTE: The need for back flushing a pumper comes more often in rural areas. The reason for this is primarily because this is where it is most often necessary to pump from a static source of water that might contain sediment of the type that is likely to clog a pump. To be sure, screens should be used on hard suction intake hose, but even then there is danger of grit or obstructive material damaging the pump and, therefore, necessitates an occasional back flushing.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-1: Define fire streams

NFPA: 3-8.1 THE FIREFIGHTER SHALL DEFINE A FIRE STREAM.

LEARNING STEPS:

1. Review information on fire streams.
2. Write a definition of fire streams.

RESOURCES:

Information Sheet

IFSTA 105

LEARNING ACTIVITIES:

1. Talk with qualified firefighters and get their definition of fire streams.
2. Read the Information Sheet and page 4 of IFSTA 105.
3. Write in your own words a definition of fire streams.

EVALUATION:

Have your chief officer review and okay your written definition of fire streams.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

INFORMATION SHEET 8-1-1

1. Position yourself to the building with the following points in mind.

   a. The greater the pressure at the nozzle, the greater the reach of the stream.

   b. The nearer the directed stream approaches an angle of 32 degrees to the earth's surface, the greater the reach of the stream. (For practical purposes, the angle is approximately 45 degrees.) Figure 1 indicates the approximate horizontal distances in feet a fire stream may be expected to reach, based on elevation angle of nozzle, water pressure, and the wind velocity.

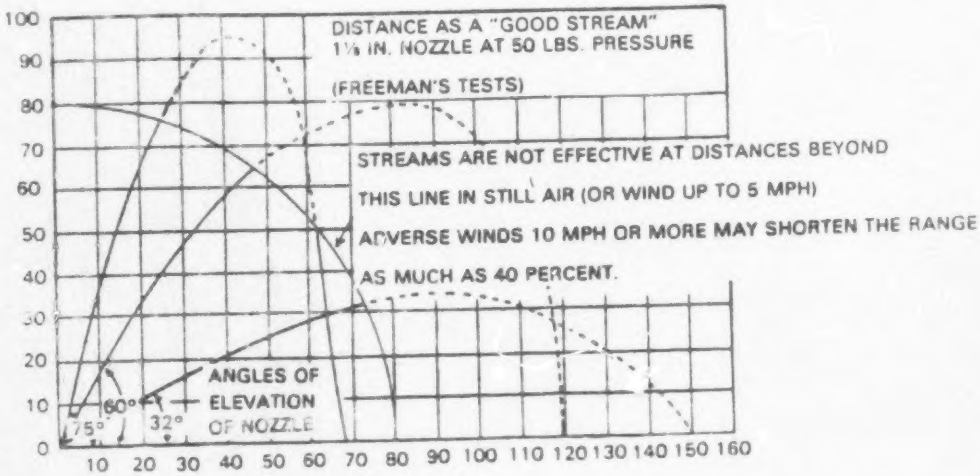

Figure 1. Horizontal distance in feet.

   c. The stream is a "good" stream (fig. 2) if–

      1. It has not lost continuity by breaking into showers of spray.

      2. It appears to shoot 9/10 of the whole volume of water inside a circle 15 inches in diameter, and 3/4 of the volume inside a 10 inch circle (as nearly as one can judge by the eye.)

FIREFIGHTER TRAINING SHEET

UNIT: Fire Stream

INFORMATION SHEET 8-1-2

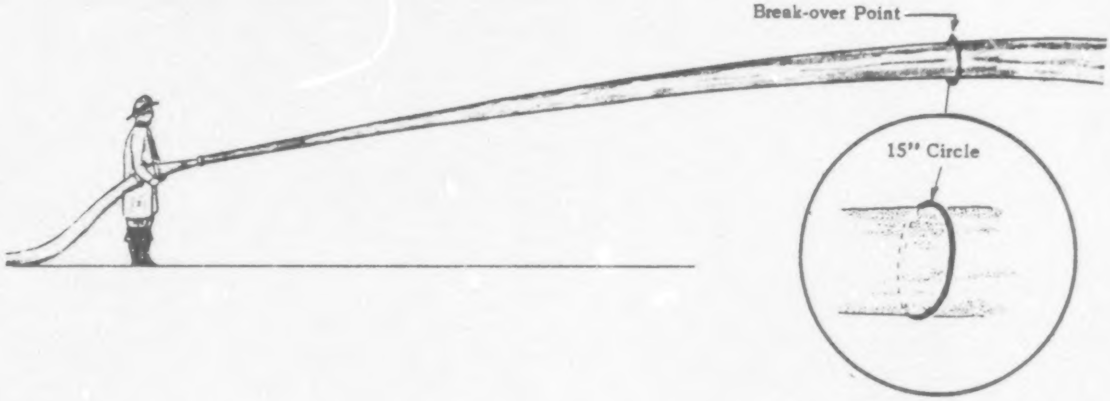

Figure 2. Point of breakover.

2. Within a room, the stream should be applied so that it is deflected from the ceiling to a wall (fig. 3). This procedure of deflection causes the stream to break up into more particles which cover a broader area and increase the heat absorbing capacity of the stream. This enables the firefighter to make maximum use of the stream.

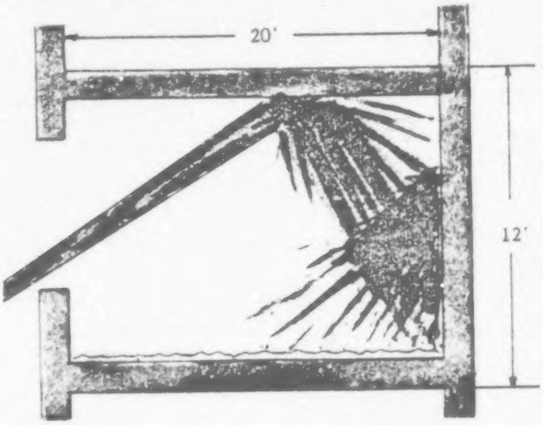

Figure 3. Correct angle of application.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Stream

INFORMATION SHEET 8-1-3

3. The firefighter should be aware of the size and layout of the room to which the stream is applied. This will help choose the stream's angle of application and should avoid the problem illustrated in figure 4. In this illustration, the fire streams are being directed at a 45 degree angle from the street into windows of a building at the first, second, third, and fourth floors. Because the floor area is large and the stream's penetration inadequate to get deflection, the stream should be less than 45 degrees from the ground. If this is not possible, an elevated stream should be used.

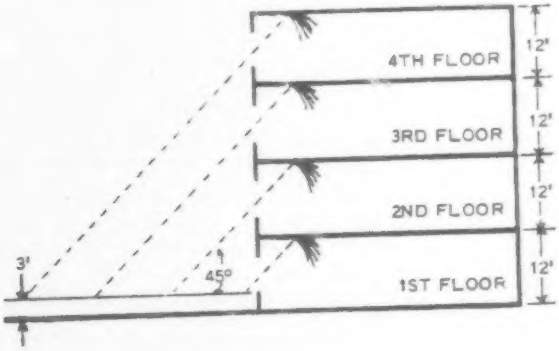

Figure 4. Wrong angle of application.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-2: Define water hammer

NFPA: 3-8.3 THE FIREFIGHTER SHALL DEFINE WATER HAMMER AND AT LEAST ONE METHOD FOR ITS PREVENTION.

LEARNING STEPS:

1. Review information on water hammer.
2. Write a definition of water hammer.

RESOURCES:

Information Sheet

LEARNING ACTIVITIES:

1. Talk with qualified firefighters about when water hammer occurs.
2. Read the Information Sheet.
3. Write out in your own words a definition of water hammer.

EVALUATION:

Have your training officer okay your written definition of water hammer.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-3: Fight fire using water in spray form

NFPA: 3-8.2 THE FIREFIGHTER, GIVEN THE NECESSARY RESOURCES, SHALL MANIPULATE THE NOZZLE SO AS TO ATTACK AT LEAST TWO LIVE FIRES INCLUDING: A CLASS A FIRE AND A CLASS B FIRE.

TOOLS AND EQUIPMENT:

1. Hose
2. Fog nozzle
3. Pumper

LEARNING STEPS:

1. Attach nozzle to uncharged line.
2. Attach line to pumper.
3. Charge line.
4. Purge air.
5. Decide method of attack and advance to position.
6. Open and close nozzle in short bursts.

RESOURCES:

IFSTA 200 & 105

LEARNING ACTIVITIES:

1. Read "Fog or Spray Nozzle Design and Pressure" in IFSTA 200 pages 166-168.
2. Secure cardboard boxes and place in open field. Position pumper, ignite boxes and practice fighting fires using water in spray form.
3. Have a member of an insurance company speak on property damage from incorrect use of fire streams.

FIREFIGHTER TRAINING SHEET

TASK 8-3 (Continued):

EVALUATION:

Given a hookup using spray nozzle, fight fire using water in spray form. Fire will be extinguished with no water damage or visible standing water.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-4: Prime firefighter's pump

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Pumper
2. Hand suction hose with strainer
3. Turnout gear
4. Spanner wrench
5. Spare gaskets

LEARNING STEPS:

1. Set brake on pump.
2. Hook strainer to hand suction hose.
3. Put strainer in water and connect to pumper intake valve.
4. Raise strainer head off bottom.
5. Air tighten all connections.
6. Close all valves on truck so caps are air tight.
7. Start truck motor.
8. Put transmission from road to pump.
9. Put gear into designated pump gear and release clutch.
10. Put engine to over 2,000 rpm as primer lever is pulled.
11. When compound vacuum gauge attains a reading, release primer lever, and slowly open discharge.

RESOURCES:

IFSTA 106, 5th edition

FIREFIGHTER TRAINING SHEET

TASK 8-4 (Continued):

LEARNING ACTIVITIES:

1. Read page 84 of IFSTA 106 and attend a demonstration by chief officer.
2. Using the learning steps, practice priming a pump.

EVALUATION:

Given a static water source and a pump, prime firefighter's pump. Pump must be primed n 30 seconds or less.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-5: Extinguish fire below the level of the firefighter using rotary nozzle (cellar)

NFPA: 3-8.4 THE FIREFIGHTER SHALL DEMONSTRATE HOW TO PROPERLY OPEN AND CLOSE A NOZZLE.

TOOLS AND EQUIPMENT:

1. Pump
2. Hose
2. Rotary nozzle

LEARNING STEPS:

1. Locate fire.

2. Attach nozzle to pipe or hose.

3 Knock a series of holes near and around fire area.

CAUTION: Keep hole as small as possible.

4. Insert nozzle into hole and charge line. Hold 2-3 minutes.

5. Shut down line and move line to different hole.

RESOURCES:

IFSTA 200

LEARNING ACTIVITIES:

1. Read Chapter 6 of IFSTA 200 pages 161-184.

2. Practice operating rotary nozzle with charged line.

3. Study the district for which your company is responsible and (a) list locations where uses of rotary nozzle are probable, (b) where possible, photograph these locations and write a plan of attack up to and incldUing the use of the rotary nozzle.

FIREFIGHTER TRAINING SHEET

TASK 8-5 (Continued):

EVALUATION:

Given a fire below the level of the firefighter, extinguish fire using rotary nozzle.

1. Nozzle must be rotated and activated around fire in circular pattern.
2. Fire must be knocked down sufficiently for crew to attack.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-6: Confine fire in smallest possible area using water curtain

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Hose
2. Proper types and size of nozzle
3. Pump
4. Turnout gear
5. Wall with a minimum space of 40' x 70' (more or less for practice)

LEARNING STEPS:

1. Place applicator at point of exposure.
2. Lay line from pumper to applicator and connect.
3. Adjust pump throttle to desired engine pressure.
4. Check to see if exposed area is totally wetted by spray.

RESOURCES:

Ohio Fire Service Training

LEARNING ACTIVITIES:

1. List the different types of water curtains.
2. Study the area covered by your company and list the locations likely to need to be protected by a water curtain and list the type of curtains you would use.
3. Write an action preplan for two or more locations.
4. Watch a demonstration.
5. Read pages 74-75 of Ohio Fire Service Training and locate a place to practice.

FIREFIGHTER TRAINING SHEET

TASK 8-6 (Continued):

EVALUATION:

Given charged hose and area to be protected, confine fire in smallest possible area using water curtain. Radiated heat will not damage exposed area.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-7: Set and operate deluge gun

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Deluge gun
2. Several hoses
3. Two or more pumps
4. Turnout gear
5. Spanner wrench
6. Spare gaskets

LEARNING STEPS:

1. Remove deluge set from pumper and set in desired position.

2. Set gun at a distance from nozzle to fire which will allow barrel to be set at 45 degree angle.

3. Attach hose from pumpers to intake at deluge gun.

   CAUTION: Loop hose to prevent buckling.

4. Attach desired tip.

5. Open water slowly.

RESOURCES:

IFSTA 105, 5th edition

LEARNING ACTIVITIES:

1. Attend a demonstration of deluge gun and take notes.

2. List the instances where a deluge gun might be used.

3. List the advantages of the deluge gun.

4. List the disadvantages of the deluge gun.

FIREFIGHTER TRAINING SHEET

TASK 8-7 (Continued):

EVALUATION:

Given two or more pumpers and a deluge gun, set and operate deluge gun.

1. Pressure must be equalized from all incoming pumpers so that all clapper valves will be open.
2. When stream is on target nozzle must form 45 degree angle with surface on which it is placed.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Streams

TASK 8-8: Fill tanker with water

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Source of standing water
2. Turnout gear
3. Tanker
4. Intake hose

LEARNING STEPS:

1. Drive tanker to water source.
2. Position tanker, set brake.
3. Lay hose from tanker to water source.
4. Attach rope to intake strainer and raise strainer slightly above bottom of water source.
5. Fasten rope to tree or float.
6. Start water from source.
7. Let tanker overflow.

   CAUTION: Keep road engine idling.

RESOURCES:

IFSTA 106

LEARNING ACTIVITIES:

1. Read Section III of IFSTA 106.
2. Watch a demonstration.
3. Locate source of water and practice.
4. Read page 12 of IFSTA 106.

FIREFIGHTER TRAINING SHEET

TASK 8-8 (Continued):

EVALUATION:

Given empty tanker, fill tanker with water.

1. Tank must be filled with uninterrupted flow.
2. There can be no debris drawn into tank.

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FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-1: Load and unload ladders

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Ladder apparatus complete
2. Full turnout gear

LEARNING STEPS:

1. Position apparatus so that ladders may extend full length in back.
2. Place longest ladder first.
3. Load next longest ladder on top.
4. Continue until ladders are loaded and locked into place.
5. Unload in reverse order.

RESOURCES:

Chief Officer

NOTE: Ladder apparatus require special techniques in handling. There are certain items which must come off first and go on last. Any deviation from the standard procedure creates havoc so be sure you understand the procedure correctly. Too, you must be sure that apparatus is so positioned that ladders can be removed and put back on with ease and without unnecessary damage to nearby property. Some companies use a numbering system on ladders and other use a color coding system. Whatever is standard for your company is what you should study.

LEARNING ACTIVITIES:

1. List the number, type, and use of all ladders used by your company.

FIREFIGHTER TRAINING SHEET

TASK 9-1 (Continued):

LEARNING ACTIVITIES (Continued):

2. Attend a demonstration by a chief officer on loading and unloading ladders.

3. Under the supervision of a chief officer, practice loading and unloading ladders.

EVALUATION:

Given ladder set and ladder apparatus, load and unload ladders.

1. Ladders must go on apparatus in descending order of length.

2. There can be no obstruction of ladders on loading or unloading.

3. Pull in off loading ladders must be smooth and uniform.

4. There can be no binding or tilting.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-2: Perform one-person ladder carry

NFPA: 3-9.2 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL DEMONSTRATE THE FOLLOWING LADDER CARRIES, THE METHOD OF CARRY BEING SPECIFIED BY THE AUTHORITY HAVING JURISDICTION:

(a) one person carry
(b) two person carry
(c) three person carry
(d) four person carry
(e) five person carry
(f) six person carry.

TOOLS AND EQUIPMENT:

1. Ladder section
2. Full turnout gear

LEARNING STEPS:

1. Stand facing tip of ladder.

2. Bend at knees and grasp ladder by beam.

3. Lift ladder and place arm through rungs, one short of center, and grasp forward rung.

4. Let uppper beam rest on shoulder.

5. Carry ladder to desired place.

RESOURCES:

Chief Officer

NOTE: Carrying ladders accurately is a skill acquired through practice. In fact, some firefighters place ladder practices second only to hose practices.

FIREFIGHTER TRAINING SHEET

TASK 9-2 (Continued):

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration by your chief officer.
2. Under the supervision of a chief officer, practice one-person ladder carries. The routes that you practice over should include city streets, alleys, yards, playgrounds, etc. You should seek out practice areas that approximate the territory covered by your company.

EVALUATION:

Given a single section of ladder and destination of ladder, perform one-person ladder carry. Ladder must be so balanced by carrier that tips do not touch walking surface or endanger others.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-3: Perform vertical carry

NFPA: 3-9.2 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL DEMONSTRATE THE FOLLOWING LADDER CARRIES, THE METHOD OF CARRY BEING SPECIFIED BY THE AUTHORITY HAVING JURISDICTION:

(a) one person carry
(b) two person carry
(c) three person carry
(d) four person carry
(e) five person carry
(f) six person carry.

TOOLS AND EQUIPMENT:

1. Full turnout gear
2. Ladder section

LEARNING STEPS:

1. Move tip of ladder away from building.
2. Stand between ladder and building.
3. Place hand on beam.
4. Place other hand through ladder, grasping second rung down.
5. Check to see if end of ladder is clear of building.
6. Bend at knees, lift ladder.
7. Carry ladder to destination.

NOTE: A note of caution is necessary here. First, ladders should not be moved great distances this way. Wind, tree limbs, and power lines all are potentially dangerous. A sudden gust of wind, for example, can shift the balance of weight and do severe muscle and tendon damage to your back and legs as can the seemingly simple act of freeing a ladder and picking it up. Most ladders, being aluminum, can bridge voltage from a line or transformer and pass it through you. Always look over your direction of travel very carefully for it can be your last for awhile.

FIREFIGHTER TRAINING SHEET

TASK 9-3 (Continued):

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration by your chief officer.
2. Under the guidance of your chief officer, practice performing vertical carry.

EVALUATION:

Given ladder positioned against structure and destination for ladder, perform vertical carry.

1. Ladder must be transported without hesitation.
2. Top of ladder will not scrape windows, walls, or obstructions.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-4: Perform six-person ladder carry

NFPA: 3-9.2 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL DEMONSTRATE THE FOLLOWING LADDER CARRIES, THE METHOD OF CARRY BEING SPECIFIED BY THE AUTHORITY HAVING JURISDICTION:

(a) one person carry
(b) two person carry
(c) three person carry
(d) four person carry
(e) five person carry
(f) six person carry.

TOOLS AND EQUIPMENT:

1. Long ladder
2. Turnout gear

LEARNING STEPS:

1. Position six persons on opposite side of ladder: two at heel, two middle, two tip.
2. Face the opposite direction which ladder is to be carried.
3. All carriers bend at knees and grasp rung with inside hand.
4. Carriers stand, lifting the ladder and pivoting towards the inside, letting the ladder rest on the inside shoulder.
5. Carry ladder.

NOTE: IFSTA 102 gives a number of carries such as arm's length carry, shoulder carry, narrow space carry, etc. The trick in ladder carrying is in deciding what carry to use and the number of persons required to do the job. So, after adequate practice you should know the different positions, stoops, and lifts and be able to walk in step with your teammates.

FIREFIGHTER TRAINING SHEET

TASK 9-4 (Continued):

RESOURCES:

IFSTA 102

Chief Officer

LEARNING ACTIVITIES:

1. Read pages 91-125 of IFSTA 102 and list all the raises and carries found there.
2. List the reasons for each carry.
3. Attend a lecture/demonstration by chief officer.
4. Under supervision of chief officer, practice raises and carries.

EVALUATION:

Given a large extension ladder, transport ladder to designated area by performing six-person carry. Carry must be executed without stumbling or changing the position of ladder.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-5: Place attic or folding ladder

NFPA: 3-9.1 THE FIREFIGHTER SHALL IDENTIFY ALL LADDERS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION, AND DESCRIBE THEIR USES

TOOLS AND EQUIPMENT:

1. Rope hose tool
2. Attic or A-frame ladder

LEARNING STEPS:

1. Carry folded ladder by handle to desired position.
2. Place one hand on each beam and pull outward, unfolding ladder.
3. Check ladder lock to be sure it is properly opened.
4. Some companies use two short ladders secured by rope hose tool.

RESOURCES:

Chief Officer

NOTE: Folding or A-frame ladder have many uses other than for attic access. You may use then to cross chain link fences or as supports for water chutes.

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration given by your chief officer.
2. List as many uses as possible for the folding ladder.
3. Practice several uses for the folding ladder.

FIREFIGHTER TRAINING SHEET

TASK 9-5 (Continued):

EVALUATION:

Given an attic or folding ladder and directions, place attic or folding ladder.

1. Both heels must be on floor.
2. Both tips must be against structure.
3. The position of the ladder from base of structure must be about 1/4 of the working height of the ladder.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-6: Raise extension ladder using two-person beam raise

NFPA: 3-9.3 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL RAISE EVERY TYPE AND SIZE OF GROUND LADDER AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION; AND USE SEVERAL DIFFERENT RAISES FOR EACH LADDER.

TOOLS AND EQUIPMENT:

1. Extension ladder
2. Full turnout gear

LEARNING STEPS:

1. Place ladder at desired position on ground.
2. Rest ladder on beam.
3. Place foot on lower beam at heel plate and grasp upper beam with hands.
4. Lift ladder to shoulder height.
5. Walk under beam and hand over hand walk ladder up. Butt ladder.
6. Secure ladder and pivot it on inside beam.
7. Hold ladder in place.
8. Untie halyard; on command of "hands and feet," raise fly to desired height and lock dogs.
9. Lower ladder in against building.

RESOURCES:

Chief Officer

FIREFIGHTER TRAINING SHEET

TASK 9-6 (Continued):

LEARNING ACTIVITIES:

1. Attend a demonstration on performing a two-person beam raise by your chief officer.
2. List hazards in performing a two-person beam raise. List advantages.
3. Practice performing the two-person beam raise.

EVALUATION:

Given tall structure and extension ladder, raise extension ladder using two-person beam raise.

1. Ladder must be put unhesitatingly into designated position.
2. Position of the ladder from base of structure must be about 1/4 of the working height of the ladder.
3. Ladder must not wobble.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-7: Perform three-person flat raise

NFPA: 3-9.3 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL RAISE EVERY TYPE AND SIZE OF GROUND LADDER AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION; AND USE SEVERAL DIFFERENT RAISES FOR EACH LADDER.

TOOLS AND EQUIPMENT:

1. Complete turnout gear
2. Extension ladder

LEARNING STEPS:

1. With ladder flat on ground, position personnel.
2. "Butt" the ladder.
3. Grasp third rung near the beam.
4. Rise up with ladder and pivot toward ladder, resting it at shoulder height.
5. Walk the ladder upright.
6. Pivot ladder on beam nearest building.
7. Stabilize the ladder.
8. Untie halyard and give command "hands and feet."
9. Raise fly to desired height and lock dogs.
10. Lower ladder into building.
11. Tie halyard to rung near bottom.

RESOURCES:

Chief Officer

FIREFIGHTER TRAINING SHEET

TASK 9-7 (Continued):

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration by a chief officer.
2. Practice performing the three-person flat raise.

EVALUATION:

Given a ladder suitable for three-person raise, perform three-person flat raise.

1. Both heels must be on the ground.
2. Both tips must be on the building.
3. Position of the ladder from base of structure to be climbed must be about 1/4 of the working height of the ladder.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-8: Place extension ladder and extend fly

NFPA: 3-9.3 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL RAISE EVERY TYPE AND SIZE OF GROUND LADDER AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION; AND USE SEVERAL DIFFERENT RAISES FOR EACH LADDER.

TOOLS AND EQUIPMENT:

1. Full turnout gear
2. Extension ladder

LEARNING STEPS - for Placing Ladder:

1. One-person raise.
   - a. With the ladder lying on the ground, place both heels of the ladder against the building.
   - b. Grasp the top rung and raise the ladder to a vertical position, while walking toward the heel, by grasping every other rung.
   - c. Grasp the ladder by the rungs with both hands, about three rungs apart. With top of ladder resting against the building, lift the ladder's heel off the ground and carry it back to the desired distance from the building (fig. 1).
   - d. Step around in front of the ladder, grasp a rung at head height, and pull the top of the ladder away from the building until the ladder is again vertical.
   - e. Place one foot against the side of the beam, thereby steadying the ladder. Allow the top of the ladder to lean slightly toward the building to counteract the pull of the halyard.
   - f. Before raising the ladder, determine the distance the heel of the ladder is to be placed from the building. Determine this by dividing the length of the ladder (L) by 4 (fig. 2). Thus, the heel of a 36-foot ladder is to be placed 9 feet from the building.

FIREFIGHTER TRAINING SHEET

TASK 9-8 (Continued):

LEARNING STEPS - for Placing Ladder (Continued):

2. One-person alternative procedure.

   a. Place the heel of the ladder at the desired distance from the building.

   b. Press down on the heels (they must be parallel to the building), lean forward, and give a sharp push with the shoulder to place the ladder in the vertical position.

   c. Raise the ladder extension as described in paragraphs 1f-g.

3. Two-person raise.

   a. Spot the heel at the point directly below where the top is to rest.

   b. Where there is enough room betwwen buildings, the ladder is positioned at right angles to the "target" building; otherwise, the ladder must be positioned parallel to the "target" building. The ladder is laid flat with the fly ladder (ladder extension) up.

   c. The man designated to "heel" the ladder stands on both heel plates, reaches forward and grasps a rung with both hands, and then leans back to assist in the raising.

   d. The other man stands at one side of the ladder, facing the top. He reaches down and grasps a rung near the top, raises the ladder over his head, swings in under the ladder facing the heel, and walks toward the heel using every other rung.

   e. If the ladder is parallel to the building, both men grasp the beams and swing the ladder around with the fly inside.

   f. (The two men are now facing each other through the ladder.) The man on the inside steadies the ladder while the man on the outside raises the fly to the desired height and locks the pawls (fig. 4).

FIREFIGHTER TRAINING SHEET

TASK 9-8 (Continued):

LEARNING STEPS - for Extending Fly:

1. Read manufacturer's suggestions.
2. Tip ladder away from building.
3. Turn ladder over on beam.

   CAUTION: Use number of personnel required by height of ladder.
4. Heel ladder.
5. Raise fly.

   CAUTION: Protect hands and feet when raising or lowering fly on extension ladder.

RESOURCES:

Chief Officer

IFSTA 102

Information Sheets

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration on ladder raises by chief officer.
2. List the danger in ladder raises.
3. Read and discuss the learning steps.
4. Study Information Sheets.
5. Practice raising extension ladders and extending flys.

EVALUATION:

Given extension ladder in position against structure, place extension ladder.

FIREFIGHTER TRAINING SHEET

TASK 9-8 (Continued):

EVALUATION (Continued):

1. Fly must raise unhesitatingly to desired position.
2. The position of the ladder apparatus from base of structure to be climbed must be about 1/4 of the working height of the ladder.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

INFORMATION SHEET 9-8-1

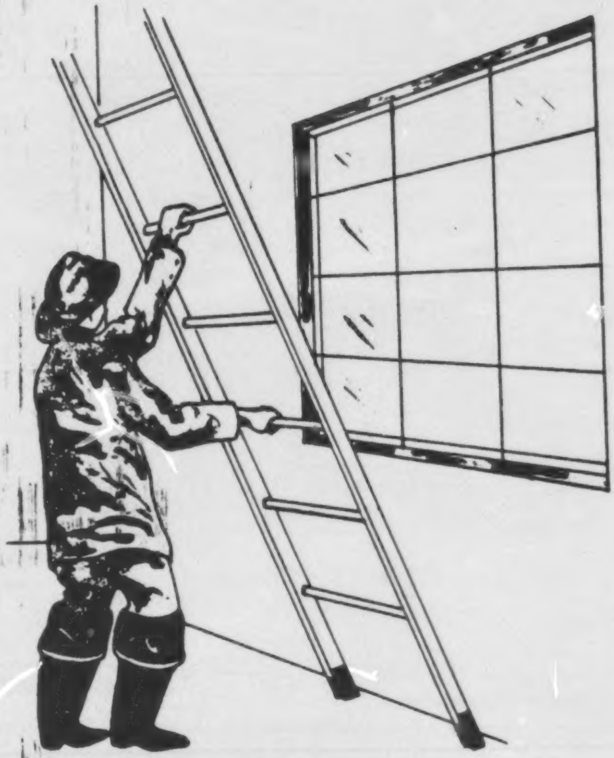


Figure 1. Place ladder.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

INFORMATION SHEET 9-8-2

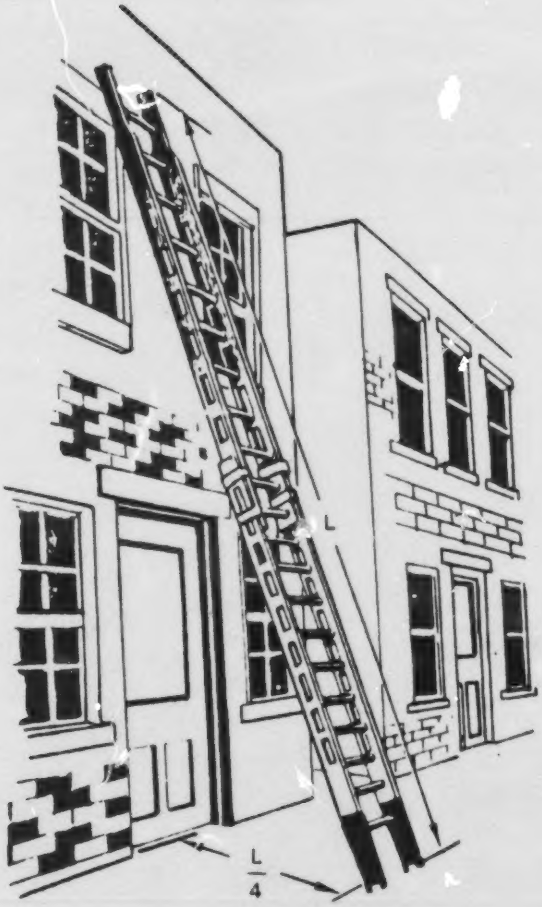


Figure 2. Proper ladder angle.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

INFORMATION SHEET 9-8-3

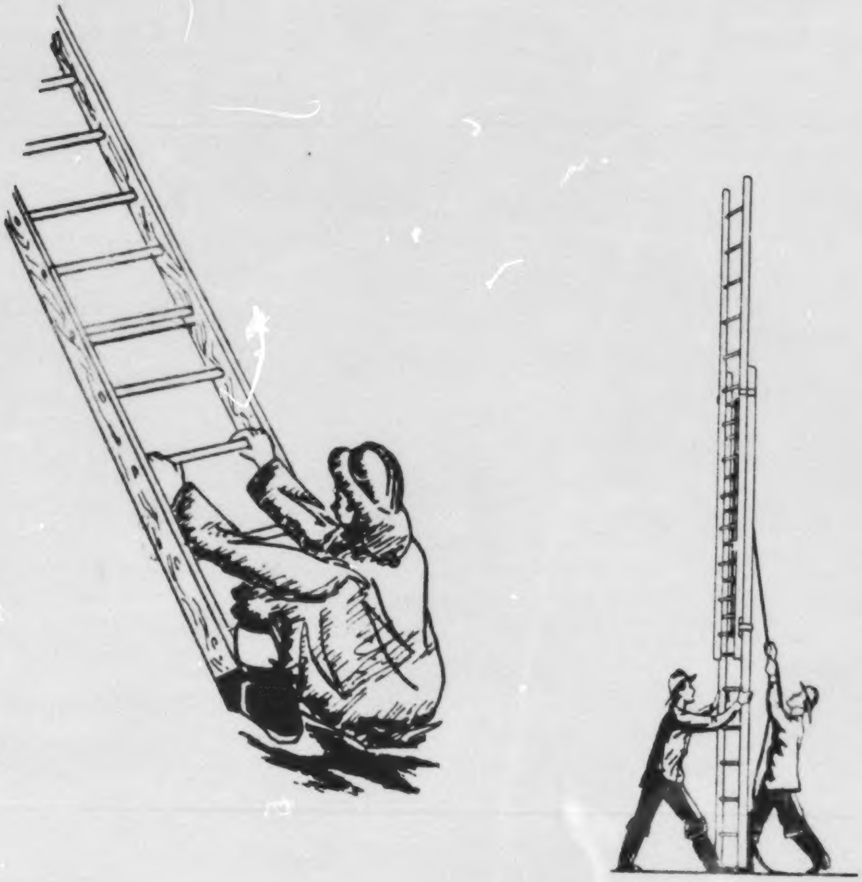


Figure 3. Raise ladder and lock pawls.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-9: Raise Bangor ladder parallel to building

NFPA: 3-9.3 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL RAISE EVERY TYPE AND SIZE OF GROUND LADDER AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION; AND USE SEVERAL DIFFERENT RAISES FOR EACH LADDER.

TOOLS AND EQUIPMENT:

1. Bangor ladder
2. Complete turnout gear

LEARNING STEPS:

1. Place Bangor ladder parallel.
2. Position all six persons.
3. Heel ladder.
4. Lift ladder from ground until tormenter poles can be activated.
5. When ladder reaches vertical, tormenter pole person swings pole out to form right angle with other pole person.

   CAUTION: Never walk backward with a tormenter pole.

6. Pivot ladder to face building.
7. Raise fly and lower ladder against building.

   CAUTION: Always carry tormenter pole to side. Never cup the palm over the end of tormenter pole.

NOTE: We cannot stress too much the dangers inherent in raising large Bangor ladders. Pay attention at all times and note safety precautions. This particular raise is done chiefly in alleys in large cities where ladder trucks cannot go and where ladders cannot be raised at right angles to wall to be climbed. If no other means of getting up the building can be found, by all means a parallel raise is necessary.

FIREFIGHTER TRAINING SHEET

TASK 9-9 (Continued):

RESOURCES:

Chief Officer

Ohio Fire Service Training

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration by experienced team and list the points of the raise wherein you feel the greatest danger exists.
2. Read page 276 of Ohio Fire Service Training and practice raise under strict supervision. (Note: Where possible each practice team should have 4 experienced persons and 2 rookies.)

EVALUATION:

Given situation where Bangor ladder cannot be raised at right angle to building, raise Bangor ladder parallel to building.

1. Ladder must be placed in smooth, unhesitating manner.
2. Position of ladder from base of structure must be 1/4 of the working height of the ladder.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-10: Raise Bangor ladder using four-person raise

NFPA: 3-9.3 THE FIREFIGHTER, OPERATING AS AN INDIVIDUAL AND AS A MEMBER OF A TEAM, SHALL RAISE EVERY TYPE AND SIZE OF GROUND LADDER AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION; AND USE SEVERAL DIFFERENT RAISES FOR EACH LADDER.

TOOLS AND EQUIPMENT:

1. Full turnout gear
2. Medium-sized Bangor ladder

LEARNING STEPS:

1. Lay ladder flat on ground approximately 10' from building.
2. Remove poles from stirrup and pass poles to person positioned at tip.
3. Heel the ladder.
4. Grasp top rung and walk ladder up.
5. Push tip of ladder with pole.
6. Control side to side movement using pole.
7. Control back and forth movement using pole.
8. Extend fly to desired height.
9. Lower ladder into building.
10. Let poles rest on ground.

    CAUTION: No Bangor ladder over 35 ft. should be raised with fewer than six persons.

RESOURCES:

IFSTA 102, 7th edition

Ohio Fire Service Training

FIREFIGHTER TRAINING SHEET

TASK 9-10 (Continued):

LEARNING ACTIVITIES:

1. Read and study pages 277-291 and or pages 99-126 of IFSTA 102, 7th edition listing the various raises.
2. Study the territory covered by your company and list the places where ladders may be used and list the type of carry, the type of raise, and the possible equipment to be carried up the ladder.
3. List the places where a four-person Bangor ladder raise may be needed.
4. Attend a lecture/demonstration by chief officer on four-person raise.
5. Practice the four-person raise.

EVALUATION:

Given four persons and a Bangor ladder, raise Bangor ladder using four-person raise. Ladder must be placed in a smooth, unhesitating motion about 1/4 of the working height of the ladder from base of structure.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-11: Carry roof ladder up extension ladder

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Extension ladder
2. Roof ladder
3. Full turnout gear

LEARNING STEPS:

1. Person one position is at roof edge on extension ladder.
2. Person two extends hooks and uses one-person raise with hooks away from building.
3. Person one grasps rung near tip and places ladder on beam.
4. Person two grasps rung near butt.
5. On one's command both lift ladder, sliding on beam along roof.
6. One lays ladder flat on roof with hooks down.
7. Slide ladder up roof until hooks are over ridge pole.
8. Pull ladder to secure it.

RESOURCES:

IFSTA 102, 7th edition

Chief Officer

LEARNING ACTIVITIES:

1. Read IFSTA 102, pages 73-77.
2. Attend a lecture/demonstration by chief officer and list reasons why a roof ladder may be used.
3. List the hazards inherent with this job.

FIREFIGHTER TRAINING SHEET

TASK 9-11 (Continued):

EVALUATION:

Given an extension ladder, roof ladder and roofed structure with ridge pole, lift roof ladder onto roof and place it. Ladder must be hoisted in one uninterrupted movement.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-12: Place ladder hooks on ridge pole

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Full turnout gear
2. Roof ladder

LEARNING STEPS:

1. Position person near roof edge.
2. Grasp top rung and pull ladder onto roof.
3. Extend hooks in same direction.
4. Slide ladder up roof until hooks are above ridge pole.
5. Pull ladder to secure it.

NOTE: This operation is deceptively dangerous. This is especially true when the firefighter does not know the original condition of the roof or the extent of the fire damage.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer on placing ladder hooks on ridge pole.
2. Under the supervision of an experienced firefighter, practice placing ladder hooks on ridge pole.

EVALUATION:

Given a roof ladder and roofed structure with ridge pole, place roof ladder.

1. Ladder must form 90 degree angle with ridge pole.
2. Ladder must lie flat against roof.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-13: Fasten end to end splice

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Full turnout gear
2. Two ladders

LEARNING STEPS:

1. Position main ladder on window sill.
2. Carry short ladder to window.
3. Place ladder heels on main ladder rung.
4. Set tie rod on ladder heels.
5. Hold short ladder in place.

RESOURCES:

Ohio Fire Service Training

Chief Officer

LEARNING ACTIVITIES:

1. Read Ohio Fire Service Training, page 280.
2. Attend a demonstration by chief officer.
3. Teamed with an experienced firefighter, practice fastening end to end splice.

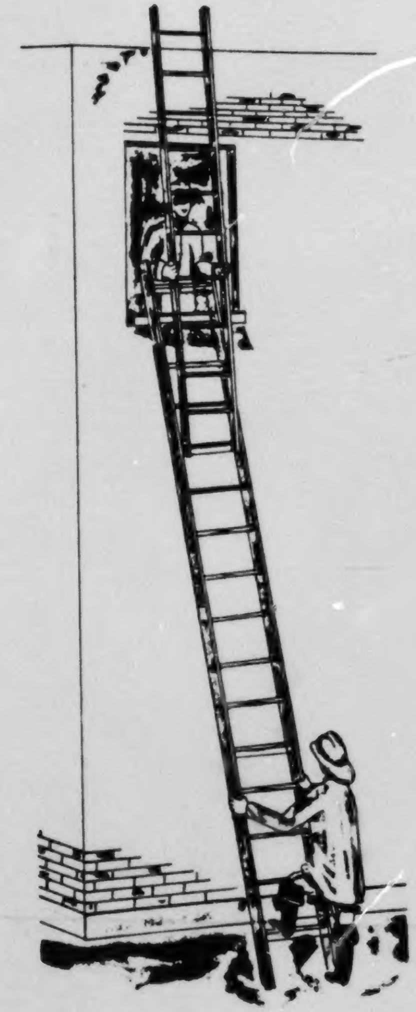
EVALUATION:

Given a main ladder and short ladder, fasten end to end splice. Short ladder (fly) will not wobble or creep when climbed.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

INFORMATION SHEET 9-13-1



End to End Splice

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-14: Fasten ladder in at tip over parapet, through window or on fire escape using hose strap

NFPA: 3-9.7 THE FIREFIGHTER SHALL DEMONSTRATE THE METHODS OF WORKING FROM GROUND OR AERIAL LADDERS WITH TOOLS AND APPLIANCES, WITH AND WITHOUT A LIFE BELT, AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Full turnout gear
2. Ladder
3. Rope hose tool

LEARNING STEPS:

1. Position ladder.
2. Climb ladder with equipment.
3. Hook hose strap or tool to ladder then hook to object holding ladder.
4. Tighten rope hose tool.

RESOURCES:

Chief Officer

Ohio Fire Service Training

LEARNING ACTIVITIES:

1. Study pages 283-284 of Ohio Fire Service Training.
2. Attend a demonstration by chief officer.
3. Practice fastening a ladder tip with rope hose tool.

   CAUTION: Metal on metal or metal on wood can slip. Where possible, make sure that the rope hose tool is tight.

FIREFIGHTER TRAINING SHEET

TASK 9-14 (Continued):

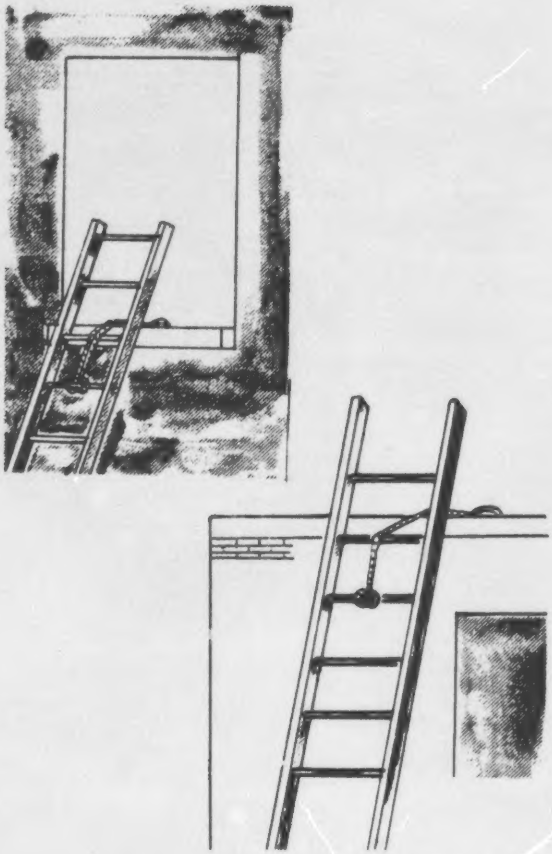
EVALUATION:

Given a situation demanding a ladder fastened at tip, fasten ladder using hose tool. There will be no slack in hose tool. Ladder will not shift when used.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

INFORMATION SHEET 9-14-1



Anchoring Ladder Using Rope Hose Tool

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-15: Fasten uncharged line on ladder using hose strap or rope hose tool

NFPA: 3-9.5 THE FIREFIGHTER SHALL CORRECTLY CLIMB THE FULL LENGTH OF EVERY TYPE OF GROUND AND AERIAL LADDER, AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION, CARRYING FIREFIGHTING TOOLS OR EQUIPMENT WHILE ASCENDING AND DESCENDING THE LADDER.

TOOLS AND EQUIPMENT:

1. Uncharged line with nozzle
2. Ladder
3. Hose strap or rope hose tool

LEARNING STEPS:

1. Place ladder.

2. Advance line up ladder (uncharged).

3. Pull the nozzle and uncharged line through the ladder until a few inches of hose are beyond rung at opening (window)

4. Using the rope hose tool, put a loop around the hose starting at front side of rung and pull tight.

5. Take full turn around right hand side of rung - cross over the hose diagonally to the inside of the ladder and the left side of the hose.

6. Put one or more turns around the rung, and anchor the hook on rung above.

NOTE: When the hose expands when charged it will be held tight to the ladder rung.

RESOURCES:

Chief Officer

Information Sheet

FIREFIGHTER TRAINING SHEET

TASK 9-15 (Continued):

LEARNING ACTIVITIES:

1. Attend demonstration.
2. Review procedural steps and compare to the illustration on the Information Sheet.
3. Obtain rope hose tool, uncharged line, and a section of ladder.
4. Practice the procedure on a low rung.
5. Practice the procedure when the ladder is placed against a building and open window.

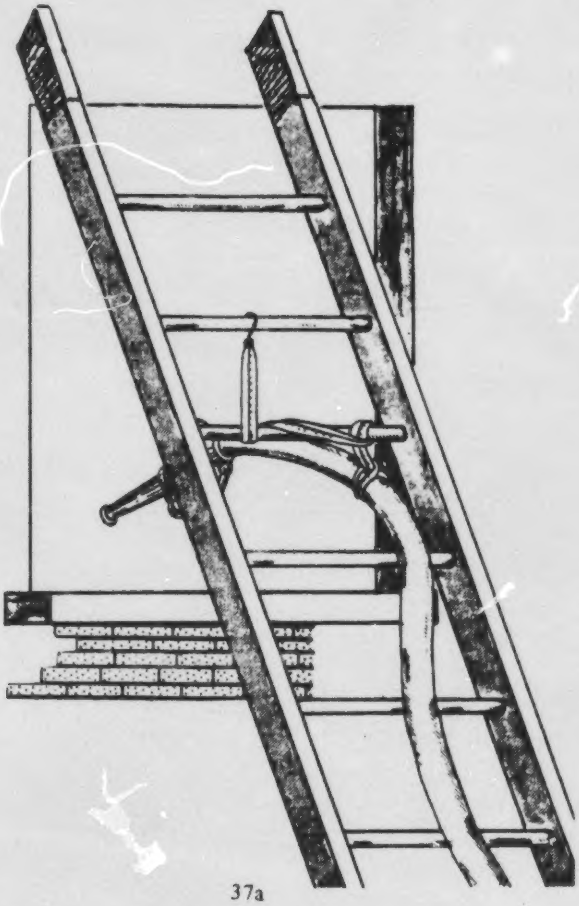
EVALUATION:

Fasten an uncharged line on a ladder using hose strap or rope hose tool. The ladder must be safely placed and the hose attached at the window level. The attachment must be firm and secure when the line is charged.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

INFORMATION SHEET 9-15-1



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Uncharged Line Set Up on Ladder

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-16: Fasten rope hose tool as life belt

NFPA: 3-9.4 THE FIREFIGHTER SHALL CORRECTLY CLIMB THE FULL LENGTH OF EVERY TYPE OF GROUND AND AERIAL LADDER, SPECIFIED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Rope hose tool
2. Rope
3. Ladder

LEARNING STEPS:

1. Ascend ladder to designated height.
2. Lock leg.
3. Place loop end of hose tool in one hand.
4. Pass hook over small of back.
5. Pass hook through loop.
6. Pass hook end over rung in front.
7. Fasten hook over both strands of rope on loop side.

RESOURCES:

Chief Officer

CAUTION: This task is one of the controversial things which one is either for or against. However, many consultants working on this project agree that it should be taught.

LEARNING ACTIVITIES:

1. Attend a lecture/demonstration by chief officer.
2. List all the reasons one may find need for using this task.
3. List all the safety hazards one may encounter in this operation.

FIREFIGHTER TRAINING SHEET

TASK 9-16 (Continued):

EVALUATION:

Given a rope hose tool and positioned ladder, fasten rope hose tool as life belt. When firefighter leans backward, rope distance from ladder to firefighter will be ample to permit freedom of movement.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-17: Free both arms by performing leg lock on ladder

NFPA: 3-9.6 THE FIREFIGHTER SHALL CORRECTLY CLIMB THE FULL LENGTH OF EVERY TYPE OF GROUND AND AERIAL LADDER AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION, AND BRING AN "INJURED PERSON" DOWN THE LADDERS.

TOOLS AND EQUIPMENT:

1. Ladder

LEARNING STEPS:

1. Place ladder properly.
2. Climb ladder.
3. Place one leg through the ladder over the second rung above the one upon which you are standing.
4. Bring the foot back through the ladder between the first and second rungs.
5. Place toe of foot over rung above the one on which you are standing.

NOTE: The leg lock is made on the side of the ladder opposite the side on which work is being done.

RESOURCES:

Chief Officer

Information Sheet

LEARNING ACTIVITIES:

1. Observe demonstration.
2. Review Information Sheet.
3. Obtain and properly place ladder.

FIREFIGHTER TRAINING SHEET

TASK 9-17 (Continued):

LEARNING ACTIVITIES (Continued):

4. Practice the procedure at a height of 4 feet.
5. Practice the procedure at a height of 14 feet.

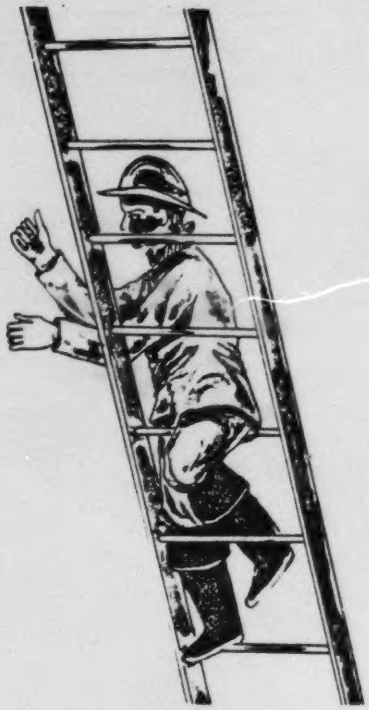
EVALUATION:

Perform the leg lock procedure on a ladder. The procedure must be performed at a height of 12-14 feet and to the extent that both hands are free.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

INFORMATION SHEET 9-17-1



Leg Lock on a Ladder.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-18: Slide victim down ladder across arms

NFPA: 3-9.6 THE FIREFIGHTER SHALL CORRECTLY CLIMB THE FULL LENGTH OF EVERY TYPE OF GROUND AND AERIAL LADDER AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION, AND BRING AN "INJURED PERSON" DOWN THE LADDERS.

TOOLS AND EQUIPMENT:

1. Ladder
2. Rope
3. Full turnout gear
4. Weighted sack or "dummy"

LEARNING STEPS:

1. Tie bowline around victim's waist.

2. Climb to top of ladder and leg lock one rung below rescue point.

3. Set victim up with legs on outside.

4. Grasp building between victim's legs.

5. Lift victim by shoulders and place across ladder (facing ladder).

6. Place hands on back of beams and slowly descend to ground, resting victim's buttocks on rungs.

7. Keep safety line taut during victim's descent. Rest by learning against victim into ladder.

NOTE: The firefighter controlling the safety line, where possible, should "dog" the rope so that in case of emergency, the rope can be controlled.

RESOURCES:

Chief Officer

FIREFIGHTER TRAINING SHEET

TASK 9-18 (Continued):

LEARNING ACTIVITIES:

1. Attend a demonstration by the chief officer.
2. In teams of two, practice sliding a victim down ladder across arms.

EVALUATION:

Given a victim or dummy, assistant, and a placed ladder, slide victim down ladder across arms. Victim must be balanced on rescuer's arms and must be transported down ladder without repositioning or dropping.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-19: Clean ladders

NFPA: 3-9.8 THE FIREFIGHTER SHALL DEMONSTRATE THE PROPER PROCEDURE FOR CLEANING LADDERS.

TOOLS AND EQUIPMENT:

1. Cleaning cloths
2. Brushes
3. Steel wool
4. Detergent
5. Solvent
6. Garden hose
7. Bucket
8. Carpenter's horse
9. Vinegar water
10. Nylon tipped hammer

LEARNING STEPS:

1. Place ladder at cleaning site on carpenter's horses.

2. Inspect the ladder to determine extent and type of contaminant.

3. Decide the action to take - scrub, remove tar by solvent, remove acid with vinegar water, etc.

4. Place ladder on beam.

5. Start with bottom rung and clean all dirt and contaminant from top beam to bottom, rinsing frequently.

RESOURCES:

Manufacturer's Manual

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.

FIREFIGHTER TRAINING SHEET

TASK 9-19 (Continued):

LEARNING ACTIVITIES (Continued):

2. Learn the following terms and the properties of each:

   a. solvent
   b. contaminant
   c. grease
   d. acid
   e. alkaline
   f. neutralize
   g. petroleum distillate
   h. litmus
   i. Ph.

EVALUATION:

Given a ladder contaminated by three or more of the following substances: acid, alkali, tar, grease, oil, hot tar, hot plastic, hot rubber, paint, etc., clean the ladder thoroughly, returning it to an original luster and cleanliness.

FIREFIGHTER TRAINING SHEET

UNIT: Ladders

TASK 9-20: Become familiar with aerial ladders by assisting to spot and place apparatus

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Aerial ladder truck
2. Full turnout gear

LEARNING STEPS:

1. Place apparatus from objective.
2. Set brake.
3. Place wheel chocks.
4. Stabilize the apparatus.
5. Check overhead for wires.
6. Elevate ladder assembly.
7. Rotate the ladder assembly in designated direction.
8. Extend fly sections.

RESOURCES:

Ohio Fire Service Training

Chief Officer

NOTE: Ordinarily, Firefighter I is not too concerned with apparatus, however, many departments now have ladder trucks and actually run ladder training sessions from them. While it is probable that Firefighter I would not actually be spotting a ladder truck, they might assist or climb the ladders.

FIREFIGHTER TRAINING SHEET

TASK 9-20 (Continued):

LEARNING ACTIVITIES:

1. Read pages 287-297 "Ladders-Aerial" in Ohio Fire Service Training and answer the following questions:
   a. Name the two chief uses of aerial apparatus; and
   b. Name the three catagories of aerial apparatus and list their uses.
2. Survey the territory covered by your company and list the places where aerial devices may be used and list reasons why for each device.
3. Attend a lecture/demonstration by chief officer.

EVALUATION:

Given ladder truck and objective, help spot and place ladder truck.

1. Apparatus must be placed so that equipment may be removed from it and room is left for hose layouts and other operations.
2. The position of the aerial ladder apparatus from base of structure to be climbed must be about 1/4 of the working height of the ladder.
3. Your survey must be within 80% of one done by your instructor or chief officer.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-1: Define ventilation and list the results

NFPA: 3-10-1 THE FIREFIGHTER SHALL DEFINE THE PRINCIPLES OF VENTILATION, AND IDENTIFY THE ADVANTAGES AND EFFECTS OF VENTILATION.

LEARNING STEPS:

1. Read resources.
2. Write out a definition of ventilation.
3. List the results of ventilation.
4. Participate in an instruction lesson.

RESOURCES:

Ohio Fire Service Manual

LEARNING ACTIVITIES:

1. Read appropriate pages of Ohio Fire Service Manual.
2. Write out a definition of ventilation.
3. List three results of correct ventilation.
4. Participate in an instruction lesson.

EVALUATION:

1. Define ventilation as it applies to the fire service.
2. List three desired results of ventilation.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-2: Define and explain backdraft

NFPA: 3-10.2 THE FIREFIGHTER SHALL IDENTIFY THE DANGERS PRESENT, AND PRECAUTIONS TO BE TAKEN IN PERFORMING VENTILATION.

3-10.6 THE FIREFIGHTER SHALL IDENTIFY AND EXPLAIN THE THEORY OF A "BACK DRAFT EXPLOSION."

LEARNING STEPS:

1. Read resources.
2. Explain the theory of backdraft.
3. Write out a definition of backdraft.
4. Participate in an instruction lesson.

RESOURCES:

Ohio Fire Service Manual

LEARNING ACTIVITIES:

1. Read appropriate pages of Ohio Fire Service Manual.
2. Write out a definition of backdraft.
3. Write an explanation of the theory of backdraft.
4. Participate in an instruction lesson.

EVALUATION:

1. Define backdraft as it applies to ventilation in the fire service.
2. Explain the theory of a backdraft explosion.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-3: List the dangers present when ventilating and explain the precautions to take

NFPA: 3-10.3 THE FIREFIGHTER SHALL DEMONSTRATE OPENING VARIOUS TYPES OF WINDOWS FROM INSIDE, OUTSIDE; WITH, AND WITHOUT THE USE OF FIRE DEPARTMENT TOOLS.

LEARNING STEPS:

1. Read resources.
2. Write out the dangers present.
3. Explain what precautions should be taken when ventilating
4. Participate in instruction lesson.

RESOURCES:

Ohio Fire Service Training Manual

LEARNING ACTIVITIES:

1. Read appropriate pages of Ohio Fire Service Manual.
2. List dangers present during ventilation.
3. Explain the precautions necessary.
4. Participate in instruction lesson.

EVALUATION:

1. List the danger present when ventilating.
2. Write an explanation of the precautions that must be taken when ventilating.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-4: Ventilate fire, mechanical (forced)

NFPA: 3-10.5 THE FIREFIGHTER, GIVEN A FIRE AXE, SHALL DEMONSTRATE THE VENTILATION OF A ROOF AND A FLOOR.

TOOLS AND EQUIPMENT:

1. Smoker ejector
2. Extension cord
3. Salvage covers
4. Step ladder

LEARNING STEPS:

1. Check exposures.
2. Notify attack companies.
3. Locate point to place ejector.
4. Place ejector and seal around it with canvas or cloth if necessary.
5. Plug ejector in and start operation.

RESOURCES:

IFSTA 107

LEARNING ACTIVITIES:

1. Read "Forced Ventilation" on pages 113-119.
2. List six reasons why forced ventilation is used.
3. List five disadvantages of forced ventilation.
4. Define "churning" as it applies to ventilation.
5. List the means for preventing "churning."

FIREFIGHTER TRAINING SHEET

TASK 10-4 (Continued):

LEARNING ACTIVITIES (Continued):

6. Using the equipment at hand simulate forced ventilation by:

   a. "A" frame installation
   b. stairwell installation
   c. archway placement
   d. opening placement
   e. casing placement
   f. door placement
   g. window placement
   h. ladder placement window
   i. casemont placement

EVALUATION:

Given a fire in need of ventilation, ventilate fire mechanically.

1. Smoke and gases must be drawn out through ejector.

2. There can be no churning or pooling of smoke.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-5: Ventilate fire, natural horizontal/vertical

NFPA: 3-10.4 THE FIREFIGHTER SHALL DEMONSTRATE BREAKING WINDOW OR DOOR GLASS, AND REMOVING OBSTRUCTION, WITHOUT HARM TO HIMSELF OR OTHERS.

TOOLS AND EQUIPMENT:

1. Window breaking device

LEARNING STEPS:

1. Choose method of ventilation.
2. Open window on leeward side from top.
3. On windward side, open bottom of window.
4. Remove any object which might obstruct air.

   CAUTION: Do not ventilate into unaffected area.

RESOURCES:

IFSTA 107, 5th edition

LEARNING ACTIVITIES:

1. Read IFSTA 107 pages 99-114 and answer the following:
   a. List factors to be considered when determining whether horizontal or vertical ventilation should be used. (Building type, design, occupancy, number and size of wall openings, number of stories, availability and involvement of exterior fire escapes, exposures, protective coverings of the openings, the direction in which the openings face, and the wind direction).
2. Identify the following terms as they apply to a fire: horizontal extension, convected air, windward, cross ventilation, and leeward.
3. List the possible obstructions to a cross ventilation.

FIREFIGHTER TRAINING SHEET

TASK 10-5 (Continued):

LEARNING ACTIVITIES (Continued):

4. Describe in your own words how water fog acts as an aid when applied to ventilation.

5. What is the exception to the rule that a building should not be opened until charged lines are in place? (Rescue)

6. List the points to place charged lines before opening a burning building. (at the windward attack entrance point, where fire might spread, and positioned to protect other exposure)

7. Review Illustration Sheet.

EVALUATION:

Given fire situation in need of ventilation, ventilate fire naturally.

1. All smoke, heat and gases must be laterally removed from area.

2. There can be no additional damage from smoke or gases.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

ILLUSTRATION SHEET 10-5-1

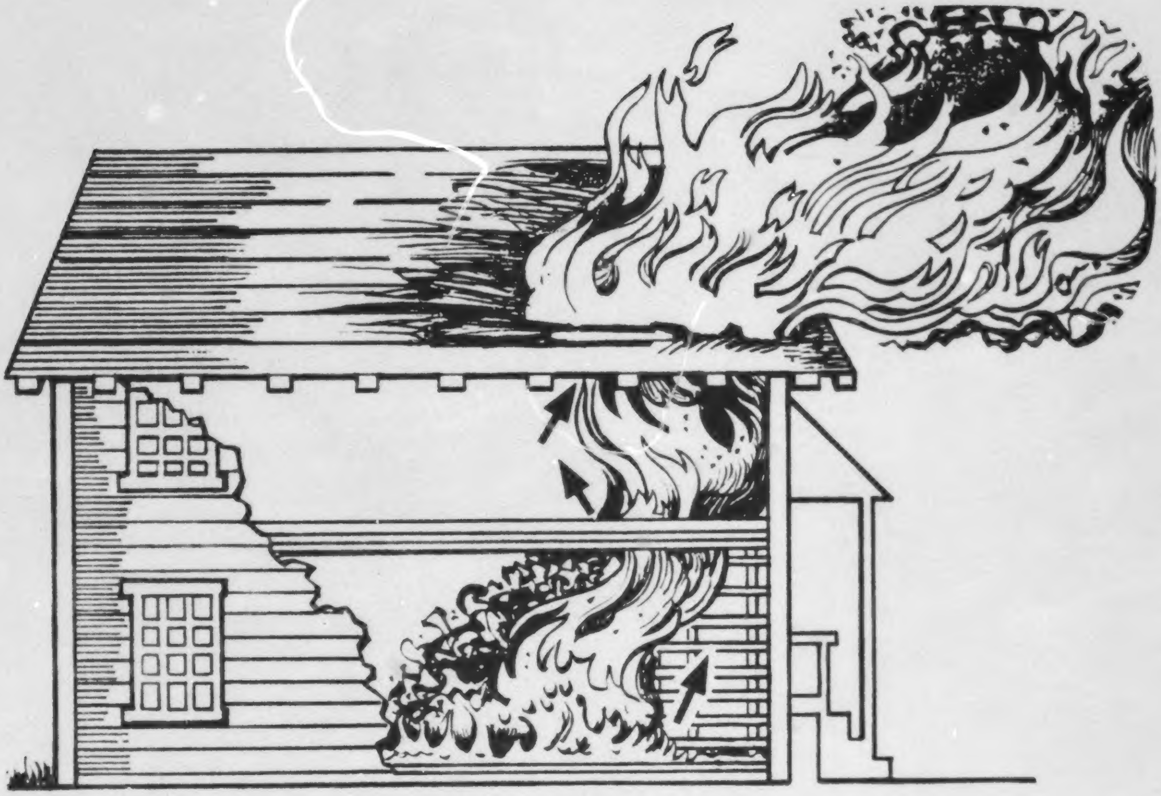


Figure 1. Vertical ventilation.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-6: Open double hung windows by prying upward

NFPA: 3-10.4 THE FIREFIGHTER SHALL DEMONSTRATE BREAKING WINDOW OR DOOR GLASS, AND REMOVING OBSTRUCTION, WITHOUT HARM TO HIMSELF OR OTHERS.

TOOLS AND EQUIPMENT:

1. Pry bar
2. Pike pole
3. Head gear with face shield
4. Protective clothing

LEARNING STEPS:

1. Check to see if window is open.
2. Check lock type.
3. Place prying device in center of lower sill and pry downward.
4. When lock breaks, raise window.

CAUTION: Use eye protection.

RESOURCES:

IFSTA 107, 5th edition

LEARNING ACTIVITIES:

1. Read pages 104-106 of IFSTA 107.
2. List the correct means of breaking glass.
3. List the various types of windows.
4. Review Illustration Sheets.
5. Practice opening double hung windows.

EVALUATION:

Given double hung window and pry bar, open window by prying upward. Entry must be gained without destroying sash.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

ILLUSTRATION SHEET 10-6-1

Consider all of the following points when opening or breaking the windows:

a. Avoid making openings below the level of the fire.
b. If the opening is made at the same floor level as the fire, make hoselines available for immediate use.
c. Avoid ventilating a building in such a way as to allow the fire to be drawn through any part of the building that is not involved.
d. When making an opening, stand to the side of the window (fig. 1), since backdraft explosion can throw debris out the windows and can seriously injure anyone in the way. This is particularly important when the fire is smoldering in a sealed room. The sudden source of oxygen through the opened window can have EXPLOSIVE consequences.

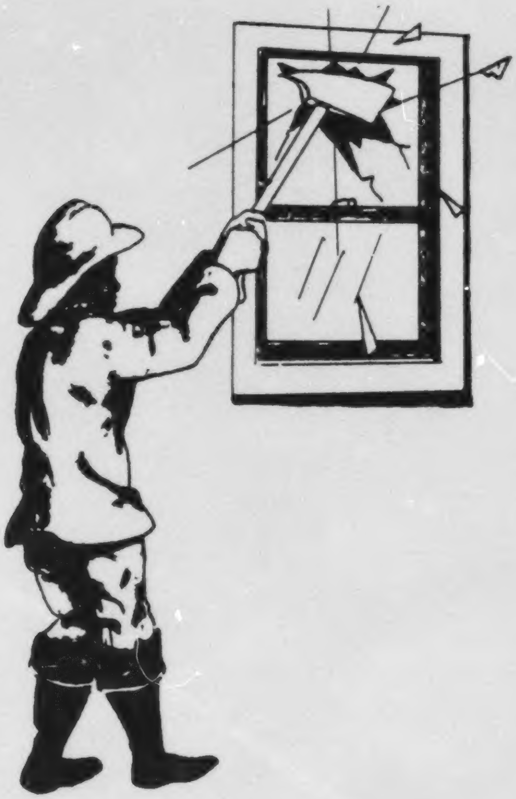


Figure 1. Breaking window glass with an ax.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

ILLUSTRATION SHEET 10-6-2

e. Use a pike pole to open windows from above (fig. 2).

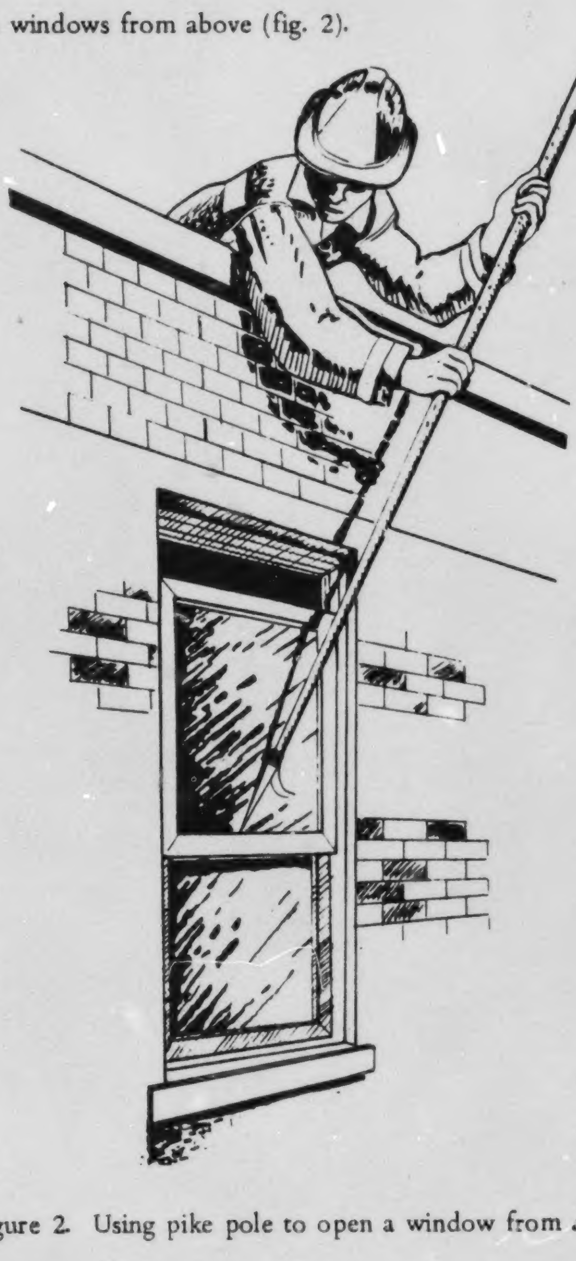


Figure 2. Using pike pole to open a window from above.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-7: Open factory type windows

NFPA: 3-10.4 THE FIREFIGHTER SHALL DEMONSTRATE BREAKING WINDOW OR DOOR GLASS, AND REMOVING OBSTRUCTION, WITHOUT HARM TO HIMSELF OR OTHERS..

TOOLS AND EQUIPMENT:

1. Glass breaker
2. Pry bar
3. Protective clothing

LEARNING STEPS:

1. Remove screen.
2. Check to see if window is unlocked.
3. Break lowest pane of glass and clean out sharp edges.
4. Reach in and upward on crank or pull level to open window.

CAUTION: Face shield must be in position over face.

RESOURCES:

IFSTA 107, 5th edition

Ohio Fire Service Training

LEARNING ACTIVITIES:

1. Read Chapter 15, "Forcible Entry," Ohio Fire Service Training.
2. Read pages 88-119 of IFSTA 107, 5th edition.
3. Attend a demonstration by a chief officer and practice opening windows.

FIREFIGHTER TRAINING SHEET

TASK 10-7 (Continued):

EVALUATION:

Given locked, factory type windows and tool for breaking glass, open window.

1. Window must be opened by breaking only one pane; frames will not be damaged.
2. No glass shards must remain.

FIREFIGHTER TRAINING SHEET

UNIT: Ventilation

TASK 10-8: Ventilate by opening a roof and floor using the fire axe

NFPA: 3-10.4 THE FIREFIGHTER SHALL DEMONSTRATE BREAKING WINDOW OR DOOR GLASS, AND REMOVING OBSTRUCTION, WITHOUT HARM TO HIMSELF OR OTHERS.

TOOLS AND EQUIPMENT:

1. Fire axe
2. Turnout gear
3. Structure (roof and floor)

LEARNING STEPS:

1. Determine area to open.
2. Determine type of construction and materials used (4 x 8 plywood may be removed in one piece).
3. Obtain proper tools.
4. Remove tar paper and gravel.
5. Use fire axe to make cuts diagonally in the grain of the wood of each board.
6. Do not swing the axe, but use short strokes
7. Stand on windward side of boards being cut.
8. After boards are cut use push end of axe to rip up the boards (remove all boards at once).

RESOURCES:

Chief Officer

Ohio Fire Service Training

FIREFIGHTER TRAINING SHEET

TASK 10-8 (Continued):

LEARNING ACTIVITIES:

1. Read appropriate pages of Ohio Fire Service Training.
2. Participate in an instruction lesson and demonstration.
3. Practice the procedures of using the fire axe on a suitable structure with a board type roof area.
4. Practice the procedure on a roof using plywood.

EVALUATION:

Given a fire axe and a suitable structure, determine the roof type and open the roof with the fire axe. The cut must be in a straight line and all procedures of safety followed.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-1: List the common causes of fires in buildings

NFPA: 3-11.1 THE FIREFIGHTER SHALL DEMONSTRATE, IN WRITING, KNOWLEDGE OF THE COMMON CAUSES OF FIRES AND THEIR PREVENTION.

LEARNING STEPS:

1. Given the following list of 12 places of human habitation: schools, hsopitals and/or institutions, prisons, nursing homes, assembly halls, theaters, restaurants, factories, office buildings, mercantile establishments, and homes. List the location of major hazard areas within each building and the location of all hazard points (causes of fires) within each major area.

Example of

HOSPITALS/INSTITUTIONS

Laboratories:

1. storage
2. anesthetics
3. gases
4. chemicals and flammable liquids
5. heat producing devices

Surgeries:

1. ineffectiveness of conductive flooring
2. improper grounding of equipment
3. flammable/explosive anesthetics

Kitchens:
1. defective wiring
2. grease fires and other cooking hazards

Service Areas:
1. heating/air conditioning
2. electrical control
3. distribution of equipment
4. combustible and flammable storage
5. laundry operation
6. maintenance operations

RESOURCES:

Chief Officer

Wisconsin Fire Service Training Lesson Plan, Classifications of Hazards

NFPA 1201

FIREFIGHTER TRAINING SHEET

TASK 11-1 (Continued):

LEARNING ACTIVITIES:

1. Read and study NFPA 1201-5: 1-1 "Control of Combustibles and Fire Prevention" parts 1-1.1.1; 1-1.1.2; 1-1.1.3; 1-1.1.4; 1-1.2.1; and 1-1.2.2; and make a list of the known combustibles that can probably be found in your assigned territory.
2. Read Wisconsin Fire Service Training Lesson Plan, "Classification of Hazards" and upon being assigned a particular building by your chief officer, list and classify all the hazards in the building as common a, b, c, d or special a, b, c, d, e, f.
3. Discuss with other firefighters the most common causes of fires in buildings and how to prevent them.

EVALUATION:

Be able to list in writing at least five common causes of fires in buildings and how to prevent these fires.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-2: List preventive measures for the common causes of fires

NFPA: 3-11.4 THE FIREFIGHTER SHALL IDENTIFY DWELLING INSPECTION PROCEDURES ESTABLISHED BY THE AUTHORITY HAVING JURISDICTION.

LEARNING STEPS:

1. Read references.
2. Read and review Information Sheet 11-2-1.
3. Using a list of 12 common places of human habitation, the major areas likely to be fire hazardous and the common causes of the fires, list all preventive measures.

RESOURCES:

Chief Officer

Ohio Fire Service Training Manual

Information Sheets

LEARNING ACTIVITIES:

1. Read chapter on Inspection, Ohio Fire Service Training Manual.
2. Attend a instructor lesson.
3. Accompany fire inspector on inspections of the various listed places.
4. Deisgn a chart for each of 12 common places of human habitation that details where fires may start.
5. Using these charts, list the preventive measures that should be in place for each item detailed.

EVALUATION:

Accompany the fire inspector on inspection jobs and conduct your own inspection with your own recommendations for preventive measures. Check your work with the fire inspector.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-3: Inspect hospitals for fire hazards

NFPA: 3-11.2 THE FIREFIGHTER SHALL DEMONSTRATE A KNOWLEDGE OF THE FIRE INSPECTION PROCEDURES USED BY THE FIRE DEPARTMENT.

TOOLS AND EQUIPMENT:

1. Inspection sheets
2. Pad
3. Pencil
4. Flashlight

LEARNING STEPS:

1. Notify building proprietor or manager.
2. Gather tools and equipment, and secure inspection sheets.
3. Orient fire company.
4. Divide company into duty teams.
5. Make exterior survey.
6. Make interior survey.
7. Compile list of hazards.
8. Construct sketch of property.
9. Locate and record egress routes.
10. Locate and record number of exits.
11. Locate and record fire suppressant devices.
12. Locate and record alarm systems.
13. Locate and record hazardous materials.
14. Make report.
15. Type letter to proper authority.

FIREFIGHTER TRAINING SHEET

TASK 11-3 (Continued):

LEARNING ACTIVITIES:

1. Attend a discussion on specific inspections.
2. Read accompanying Information Sheets.
3. Accompany inspection officer to site and observe procedure.

EVALUATION:

Given flashlight, pencil, and writing pad, inspect hospital for fire hazards. Report must be certified as complete and correct by chief officer, who must have accompanied the learner.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-4: Inspect dry cleaning plant

NFPA: 3-11.2 THE FIREFIGHTER SHALL DEMONSTRATE A KNOWLEDGE OF THE FIRE INSPECTION PROCEDURES USED BY THE FIRE DEPARTMENT.

TOOLS AND EQUIPMENT:

1. Flashlights
2. Inspection sheets
3. Pen
4. Pad

LEARNING STEPS:

1. Notify building proprietor or manager.
2. Gather tools and equipment.
3. Orient fire company.
4. Divide company into duty teams.
5. Make exterior survey.
6. Make interior survey.
7. Insepct and test auxiliary fire fighting equipment.
8. Inspect and record hazards found during inspection.
9. Compile list of hazards.
10. Construct sketch of property.
11. Make report.

LEARNING ACTIVITIES:

1. Attend a discussion on specific inspections.
2. Read accompanying Information Sheets.
3. Accompany inspection officer to site and observe procedure.

FIREFIGHTER TRAINING SHEET

TASK 11-4 (Continued):

EVALUATION:

Given explosimeter, flashlight, note pad, pencil, and dry cleaning establishment to be inspected, inspect dry cleaning establishment. Report must be certified as complete and correct by chief officer, who must have accompanied the learner.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-5: Inspect schools for fire hazards

NFPA: 3-11.2 THE FIREFIGHTER SHALL DEMONSTRATE A KNOWLEDGE OF THE FIRE INSPECTION PROCEDURES USED BY THE FIRE DEPARTMENT.

TOOLS AND EQUIPMENT:

1. Pen/pencil
2. Flashlight

LEARNING STEPS:

1. Assemble team.
2. Make team assignments.
3. Proceed to location.
4. Position team.
5. Notify principal.
6. Activate fire alarm.
7. Time egress.
8. Note escape routes.
9. Inspect and record housekeeping practices.
10. Inspect and record condition of electrical wiring.
11. Inspect ventilation systems.
12. Insepct and record condition of stand pipe system.
13. Inspect and record adequacy of fire doors.
14. Inspect and record adequacy of alarm systems.
15. Inspect and record adequacy of exit facilities.
16. Check quality and number of fire drills in log book.

FIREFIGHTER TRAINING SHEET

TASK 11-5 (Continued):

LEARNING ACTIVITIES:

1. Attend a discussion on specific inspections.
2. Read accompanying Information Sheets.
3. Accompany inspection officer to site and observe procedure.

EVALUATION:

Given assist team, pencil, paper and public school to be inspected, inspect school for fire hazards. Report must be certified as complete and correct by chief officer, who must have accompanied the inspector.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-6: Be aware of how to conduct fire drills in schools and public institutions

NFPA: 3-11.3 THE FIREFIGHTER SHALL DESCRIBE THE IMPORTANCE OF PUBLIC RELATIONS RELATIVE TO THE INSPECTION PROGRAMS OF THE FIRE DEPARTMENT.

TOOLS AND EQUIPMENT:

1. Timing device
2. Flashlight
3. Megaphone

LEARNING STEPS:

1. Notify authorities.
2. Station personnel.
3. Set alarm.
4. Monitor evacuation time.
5. Monitor egress routes.
6. After building is clear, check for window and door openings.

LEARNING ACTIVITIES:

1. Attend lesson on fire drills.
2. Read Information Sheets.
3. Accompany officer and other personnel to school and observe a fire drill.
4. Discuss with other firefighters the do's and don'ts of conducting fire drills.

EVALUATION:

Describe in writing how you would go about organizing and conducting a fire drill. Indicate also why such drills are important.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-7: Prepare and give address to public group

NFPA: 3-11.3 THE FIREFIGHTER SHALL DESCRIBE THE IMPORTANCE OF PUBLIC RELATIONS RELATIVE TO THE INSPECTION PROGRAMS OF THE FIRE DEPARTMENT.

LEARNING STEPS:

1. List facts about audience.
2. Identify intent.
3. Make an outline of speech.
4. List key points.
5. List facts and figures to support key points.
6. Plan opening and closing statements.
7. Prepare aids.
8. Prepare address.
9. Check pronunciation and meaning of words.
10. Face audience.
11. Speak clearly.

LEARNING ACTIVITIES:

1. Select a topic from examples given and prepare a five minute information presentation.
2. Give the presentation to members of the class or to the fire department personnel.

EVALUATION:

Given a subject and a date on which to speak, prepare and give address to public group.

1. Voice must be audible in all parts of the room.

FIREFIGHTER TRAINING SHEET

TASK 11-7 (Continued):

EVALUATION (Continued):

2. There can be no mispronounced words.
3. All statements must be in support of main theme.

FIREFIGHTER TRAINING SHEET

UNIT: Inspection

TASK 11-8: Show fire prevention movies

NFPA: 3-11.3 THE FIREFIGHTER SHALL DESCRIBE THE IMPORTANCE OF PUBLIC RELATIONS RELATIVE TO THE INSPECTION PROGRAMS OF THE FIRE DEPARTMENT.

TOOLS AND EQUIPMENT:

1. Movie projector (complete)
2. Extension cord
3. Ground plug

LEARNING STEPS:

1. Select film.
2. Secure screen and projector.
3. Locate "dark" room.
4. Preview film and take notes.
5. Secure operating manual and read it.
6. Open projector case.
7. Fold out reel arms.
8. Attach drive belt for reel arms.
9. Turn sound/silent switch to sound.
10. Connect speakers.
11. Check direction of rewind switch.
12. Set up screen.
13. Turn on lamp and motor.
14. Prefocus.
15. Turn off lamp and motor.
16. Thread machine.

FIREFIGHTER TRAINING SHEET

TASK 11-8 (Continued):

LEARNING STEPS (Continued):

17. Turn on motor and lamp.
18. Preadjust picture and sound.
19. Set volume and tone.
20. Adjust lens.
21. Reverse film to starting point, shut machine off.
22. Orient class on what to look for.
23. Start film.

RESOURCES:

Chief Officer

Inservice personnel

Media Specialist at local Vocational Education School

LEARNING ACTIVITIES:

1. Obtain the film you wish to show and take it with you to the nearest resource person and practice showing it using the steps listed in the Learning Steps.

EVALUATION:

Given a projector and film on fire prevention, show fire prevention movie.

1. When movie is begun, it will run continuously and smoothly without further adjustment.
2. Projectionist must remain with machine.
3. Machine must be "taken down."
4. Film must be prepared for next user.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-1: Remove victim from charged wires

NFPA: 3-12.1 THE FIREFIGHTER SHALL DEMONSTRATE THE REMOVAL OF INJURED PERSONS FROM THE IMMEDIATE HAZARD BY THE USE OF CARRIES, DRAGS, AND STRETCHERS.

TOOLS AND EQUIPMENT:

1. Rubber gloves
2. 5 foot length of nonconducting rope
3. 4 foot length of nonconducting pole
4. Bolt cutters
5. Turnout gear

NOTE: The rope, the pole and the bolt cutters are all methods whereby a victim can be removed from a charged wire and it is improbable that all of these would be used in one operation. However, rubber gloves and full turnout gear should, where possible, be used with any of the three methods.

LEARNING STEPS:

1. If possible, turn off power.

2. Clear area of bystanders.

3. Secure electrician's gloves and cutters.

4. Cut wire on each side of victim. Remove victim from wire.

5. Summon aid.

6. Notify ambulance and power company.

7. If unable to cut power, use a length of nonconducting rope to lift the victim from the wire while using the pole (fig. 1) or any other nonconducting instrument to push the wire away.

FIREFIGHTER TRAINING SHEET

TASK 12-1 (Continued):

LEARNING STEPS (Continued):

8. If a victim must be lifted from the electric wire, use a rope, strap, or other nonconducting item as shown in figure 2.

9. Once the victim is free from the hazard, check the victim's pulse and respiration. If necessary perform cardiopulmonary recussitation.

RESOURCES:

Chief Officer (Safety Officer)

Ohio Fire Training Service

IFSTA 209

LEARNING ACTIVITIES:

NOTE: While we are primarily concerned right now with the task of cutting wires to remove a victim from a charged wire, we feel that you would greatly benefit by reading Section I "Accident Control Concepts" and Section II "Essentials of a Safety Program" of IFSTA 209. Next we would like for you to read "Rescue" pages 372-384 in Ohio Fire Service Training. This should provide you with enough background information to help you participate in class discussions.

1. Read IFSTA 109 pages 147, 179, and 180 and Ohio Fire Service Training pages 375-376 and list ten questions you would like answers to during a presentation on rescue by a chief officer.

2. Attend a demonstration by a chief officer on removing a victim from a charged line.

3. Under supervision, practice removing a victim from a charged wire by using bolt cutters.

FIREFIGHTER TRAINING SHEET

TASK 12-1 (Continued):

EVALUATION:

Given a hypothetical situation wherein a person is in contact with charged wire, secure bolt cutters, rubber gloves and pike pole, and remove victim from charged wire.

1. Wire must be completely cut on both sides of victim.
2. There can be no contact with the wire other than with cutting instruments.
3. Victim must be removed from further danger from charged wire.

Given an unconscious victim lying across a live exposed electric wire, a 5-foot length of nonconducting rope, and a 4-foot nonconducting pole, remove the victim from the live wire without bodily contact with the victim or the live wire.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

INFORMATION SHEET 12-1-1

WARNING: Do not touch the victim or the wire with bare hands or an electrical conductor.

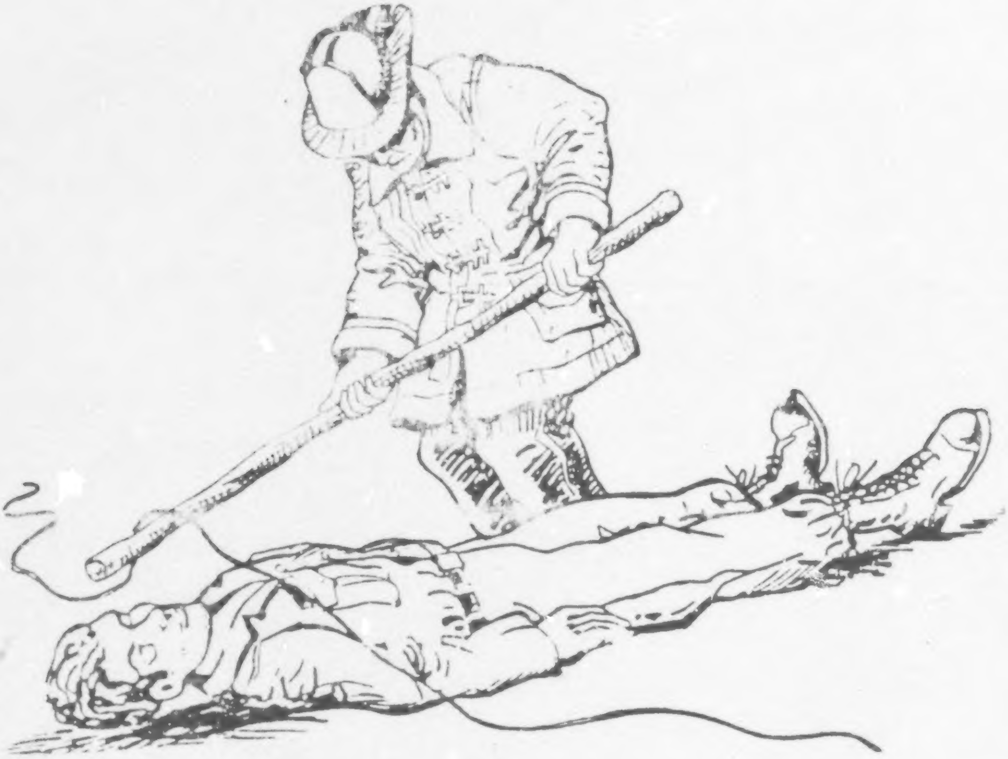


Figure 1. Using pole to push wire away.

UNIT: Rescue

INFORMATION SHEET 12-1-2

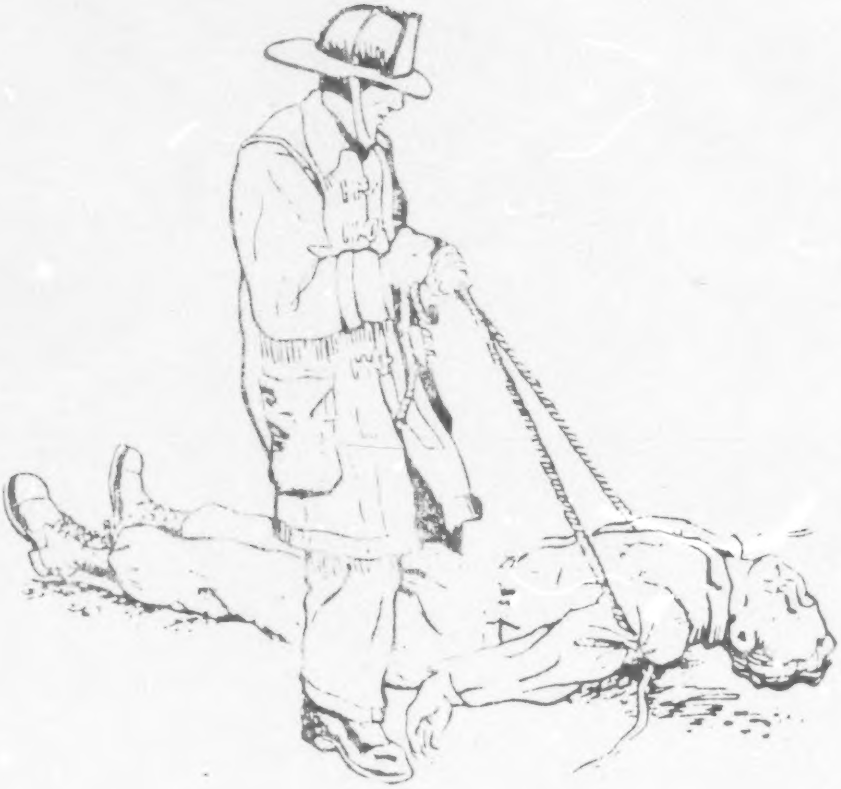


Figure 2. Removing victim from live wire.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-2: Perform rescue using firefighter carry

NFPA: 3-12.2 THE FIREFIGHTER SHALL DEMONSTRATE THE PROCEDURE FOR SEARCHING FOR VICTIMS IN BURNING, SMOKE-FILLED BUILDINGS, OR OTHER HOSTILE ENVIRONMENTS.

TOOLS AND EQUIPMENT:

1. Triangular bandage or equivalent

LEARNING STEPS:

1. Locate victim and place on back.
2. Bring arms to belt level and tie wrists with bandage.
3. Straddle victim.
4. Place victim's wrists behind neck.
5. Raise victim's head off floor.
6. Crawl to safety, pulling victim along.

CAUTION:
1. Do not tie wrists too tightly as to cut off circulation.
2. When crawling downstairs do not let victim get away and tumble down.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Under chief officer's supervision, practice firefighter drag.

FIREFIGHTER TRAINING SHEET

TASK 12-2 (Continued):

EVALUATION:

Given a simulated victim in perilous situation and triangular bandage, perform rescue using firefighter's carry. Person must be immediately dispatched to safety without further injury.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-3: Evacuate person using stokes basket

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Stokes basket
2. Blanket(s)

LEARNING STEPS:

1. Locate victim.
2. Select route from victim to vehicle.
3. Secure equipment.
4. Place blanket in basket.
5. Put victim in basket.
6. Wrap victim in blanket.
7. Strap victim securely in basket.
8. Evacuate victim to safety.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. In teams of four persons each, practice evacuating person using stokes basket.

EVALUATION:

Given an immobile person, stokes basket and blanket, evacuate the person using stokes basket. Person must be removed from designated danger area in a smooth uninterrupted movement.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-4: Rescue person carrying astride back

NFPA: NO SPECIFIC STANDARD

LEARNING STEPS:

1. Stand with back towards victim with you knees bent.
2. Instruct victim to hold to rescuer's shoulders and wrap legs around waist.
3. Grasp victim's thighs.
4. Walk with victim on back.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Under the supervision of a chief officer, practice rescue person carrying astride your back.

EVALUATION:

Given an endangered person unable to walk, rescue person carrying astride back. Person must be transported to a designated area without being dropped.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-5: Rescue small, uninjured person carrying in arms

NFPA: NO SPECIFIC STANDARD

LEARNING STEPS:

1. Lay victim on back; kneel beside victim.
2. Place left arm under victim's neck, grasping opposite shoulder.
3. Place right arm under victim's legs and grasp opposite leg.
4. Lift with legs and carry to safe area.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Practice rescuing person carrying them in your arms.

NOTE: This maneuver, when performed by one person, must be done with caution for rescuer may fall or injure their back.

EVALUATION:

Given a small, unconscious victim, rescue person carrying in arms. Victim must be transported to designated area without being dropped.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-6: Rescue large, injured victim carrying in arms (3 persons)

NFPA: NO SPECIFIC STANDARD

LEARNING STEPS:

1. One bearer is responsible for giving the commands (normally the one at the casualty's head).
2. The three bearers line up on one side of the casualty and the "leader" gives the command, "Prepare to lift!"
3. Each bearer kneels on the knee nearest the casualty's feet, with one bearer at the shoulders, one at the hips and one at the knees. They pass their hands and forearms under the casualty. The bearer at the head places their hands under the casualty's neck and shoulders. The next places their hands under the pelvis and small of the back. The third places their hands under the knees and ankles (fig. 1).
4. At the command, "Lift!" they raise the victim and place the victim on their knees, but without releasing their hands (fig. 2).
5. At the command, "Prepare to raise!" they slowly turn the victim on the side toward them until the victim rests in the bend of the elbows.
6. At the command, "Rise!" all rise slowly to standing position, holding the casualty closely against their chests (fig. 3).
7. All movements are done on command. The bearers all start off on the same foot and use even, short steps.
8. The victim is lowered and placed by reversing the above commands.

RESOURCES:

Chief Officer

FIREFIGHTER TRAINING SHEET

TASK 12-6 (Continued):

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Practice resuing large, injured vicitm carrying in arms (3 persons).

EVALUATION:

Given a full set of normal protective clothing, two other firefighters, and a casualty, complete the learning steps and move the victim a distance of three meters.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

INFORMATION SHEET 12-6-1

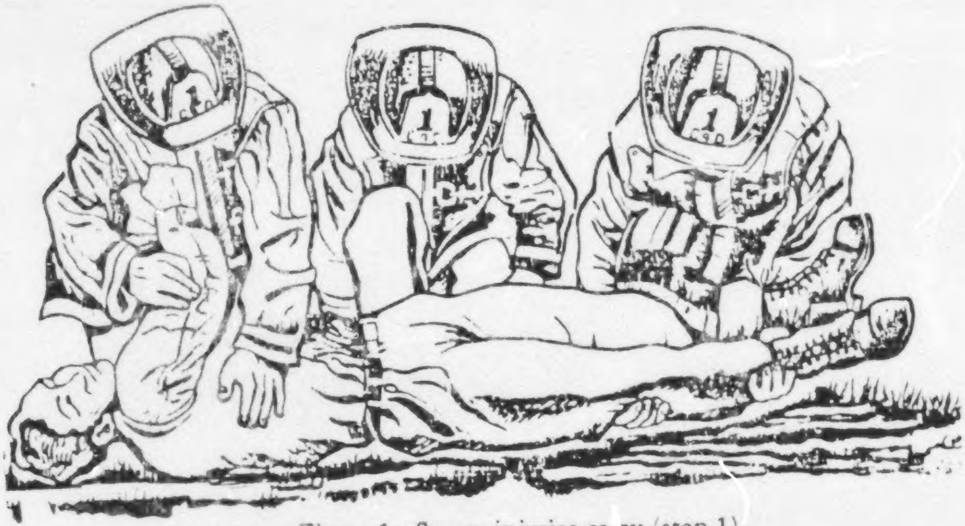


Figure 1. Severe injuries carry (step 1)

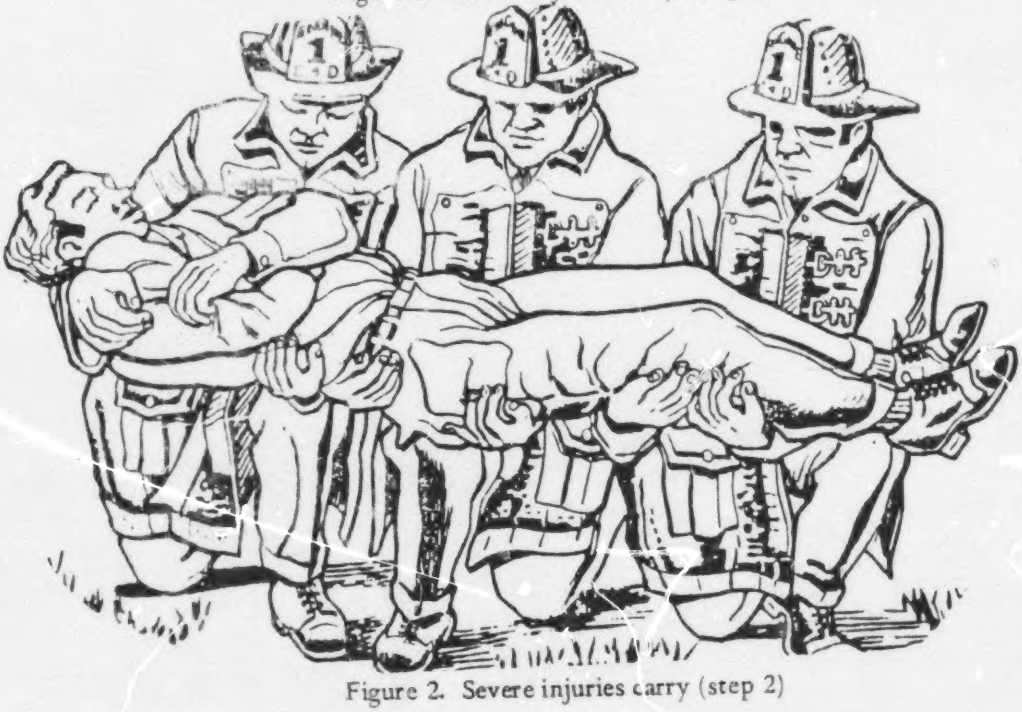


Figure 2. Severe injuries carry (step 2)

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

INFORMATION SHEET 12-6-2

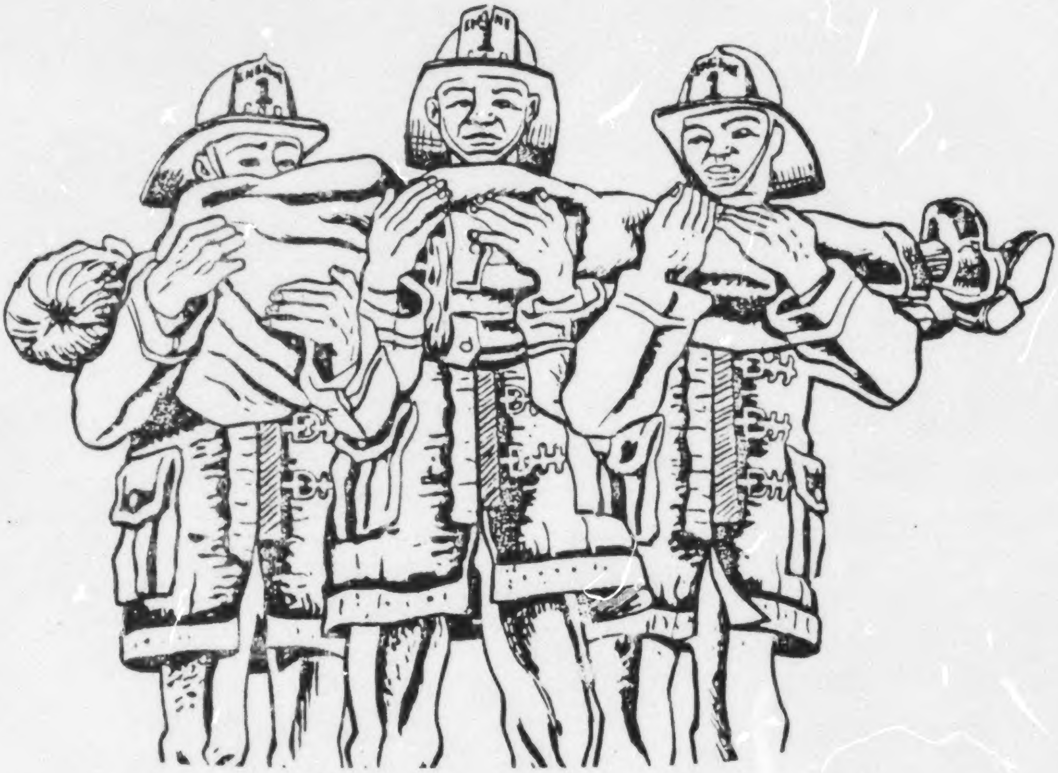

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Figure 3. Severe injuries carry (step 3)

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-7: Rescue person using back strap method

NFPA: 3-12.3 THE FIREFIGHTER SHALL DEMONSTRATE AND EXPLAIN THE USES OF A LIFE BELT.

TOOLS AND EQUIPMENT:

1. Rope hose tool(s)

LEARNING STEPS:

1. Tie a three loop with rope or use rope hose tool.
2. Lay victim on back.
3. Place rope across victim's back, allowing a looped end to be beneath victim's armpits.
4. Lay with back on victim's stomach and place arms through loops.
5. Slowly roll on left side to all fours pulling victim on top.
6. Crawl or walk to safe area.

RESOURCES:

Chief Officer

Student Information Sheets

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Practice back strap method.

EVALUATION:

Given a back strap and endangered person, rescue person using back strap method. Person must be transported to designated area without being dropped.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-8: Rescue person using chair carry

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Chair (preferably a dining chair)
2. Tri-bandage

LEARNING STEPS:

1. Place victim in chair.
2. Tie hands together with tri-bandage.
3. Place persons at front and rear of chair with back of chair between arms.
4. Tilt chair slightly backwards.
5. Lift and carry to safe area.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. In teams of three persons, obtain a straight backed chair or dining chair and practice.

EVALUATION:

Given a chair, triangle bandage, and endangered person unable to walk, rescue person using chair carry. Person must be removed to designated area without dropping.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-9: Rescue person using clothes drag method

NFPA: NO SPECIFIC STANDARD

LEARNING STEPS:

1. Lay victim on back.
2. Kneel at victim's head.
3. Grasp victim's shirt or coat collar behind head and elevate.
4. Drag victim to safe area.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Practice rescuing victim using clothes drag method.

EVALUATION:

Given a clothed, endangered person, rescue person using clothes drag. Person must be removed to designated area without striking his/her head.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-10: Rescue person using two-person seat carry

NFPA: NO SPECIFIC STANDARD

LEARNING STEPS:

1. Each bearer grasps his/her own left wrist with the right hand and then grasps the other bearer's right wrist with his/her left hand (fig. 1).
2. The victim sits on the interlocked hands of the bearers, supporting him/herself by placing an arm around each of the bearer's necks.

NOTE: This carry is also called the four-hand carry.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Practice rescuing victim using two-person seat carry.

EVALUATION:

Given a simulated victim, two rescuers will rescue the victim using a two-person seat carry. Victim must be transported to a designated area in one smooth uninterrupted movement.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

INFORMATION SHEET 12-10-1

The two-person seat carry is a good carry for patients with injuries of the head or feet. The patient must be conscious so they can hold on.

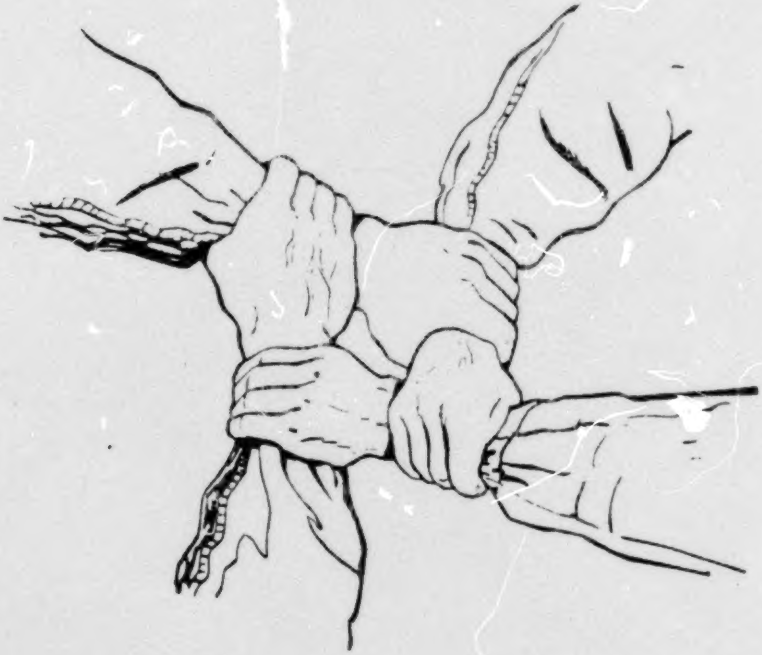

Figure 1. Four-hand carry.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-11: Rescue person using blanket drag

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Blanket

LEARNING STEPS:

1. Spread blanket on floor.
2. Lay victim on blanket.
3. Bunch blanket above head to form handle.
4. Drag victim to safe area.

NOTE: In some cases it may be more expedient to fasten a rope hose tool around the blanket and under the arm pits to prevent dragging the blanket from under the victim.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration by chief officer.
2. Using a partner and under the supervision of a chief officer, practice dragging a person to safety.

EVALUATION:

Given a blanket and endangered person, rescue person using blanket drag. Victim must be transported to a designated area without injury.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-12: Rappel two-story building using life belt

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Rope, rappel quality
2. Life belt
3. Full turnout gear
4. Anchor hooks

LEARNING STEPS:

1. Tie manila rope to secure object on roof top.
2. Drop entire rope off building to ground below.
3. Strap belt.
4. Stand to side of rope.
5. With hinged part of hook towards body, grasp rope and bottom part of hook in hand.
6. With other hand, make two counterclockwise motions with a standing part of rope, snapping through hinge on hook both times.
7. Coil rope twice around hook.
8. Check rope action by backing up on roof top.
9. Position belay person on ground.
   Caution: Belay person must hold rope and pull tight in event of failure.
10. Stand at roof edge with right hand (brake hand) behind hook firmly on rope. Create friction in hook with brake hand.
11. With feet apart, slowly start descent over edge.

NOTE: This task was written to meet the requirements of part 3-12.3 "The firefighter shall demonstrate and explain the uses of a life belt." Strict interpretation of this statement may be construed to mean

FIREFIGHTER TRAINING SHEET

TASK 12-12 (Continued):

LEARNING STEPS (Continued):

NOTE: that to "demonstrate the use of a life belt..." one would have to rappel a building. Then again one may argue that it simply means a verbal description of how to use a life belt. All the persons who worked on this project agree that to really understand rappeling with a life belt that you should actually use it for that purpose, name all the parts and explain the functions of each. They feel that when you have gone through all 11 learning steps you have arrived.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a demonstration/instruction session by chief officer.
2. Under the supervision of a chief officer and with an experienced belay person practice rappeling a two-story building.

EVALUATION:

Given a rope, life belt, and two-story building, rappel two-story building using Taylor belt. Descent will be in a smooth even "walk down" motion.

FIREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-13: Maneuver aerial hydraulic apparatus

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Aerial hydraulic apparatus

LEARNING STEPS:

1. Position apparatus and set emergency brake.
2. Put hydraulic device or P.T.O into gear.
3. Chock wheels.
4. Set stabilizing gear or outriggers.
5. Mount control panel.
6. Look for overhead obstruction, power lines, etc.
7. Raise boom from bed to near straight position.
8. Rotate to desired direction.
9. Extend to desired height.
10. Lower to building.
11. Lock in position.
12. Lower in reverse order.

RESOURCES:

IFSTA 106: Fire Apparatus Practices, 5th edition

Ohio Fire Service Training, 1980

Manufacturer's Instruction Manual

NFDA Fire Officers Guide to Operating Aerial Ladders

FIREFIGHTER TRAINING SHEET

TASK 12-13 (Continued):

LEARNING ACTIVITIES:

1. Obtain the Manufacturer's Instructional Guide for your aerial apparatus, write down the basic characteristics.
2. Review pages 287-297 in Ohio Fire Service Training and pages 103-123 in IFSTA 106. Look closely at information about the characteristics of your aerial apparatus and safety considerations.
3. Make up a chart for your aerial ladder which lists each of the controls and tells where the central is located, what it does, how it is operated, what attention it needs and safety precautions (IFSTA 106 has a sample chart on page 105).
4. Work with a qualified firefighter to learn how to operate the aerial apparatus and practice operating it.

EVALUATION:

Given apparatus, raise aerial hydraulic apparatus to designated point and lower boom to driving position. Ladder will reach designated position in smooth continuous operation with no false starts.

IREFIGHTER TRAINING SHEET

UNIT: Rescue

TASK 12-14: Coil and throw a rope

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. 50 feet of 1/2 inch rope
2. Ladder
3. Rope coiler

LEARNING STEPS:

1. Inspect rope.
2. Straighten rope to full length taking care to remove kinks and tangles.
3. Attach loop end to one side of standard.
4. Coil rope around both standards taking care that folds or bends are smooth and are moderately tight.
5. Leave excess rope at end of coil.
6. Wind excess around coil in smooth even circles until width sufficient to hold rope coils is developed.
7. Tuck off knotted end of rope.
8. Position self at point from which to throw rope.
9. Locate point where rope must reach.
10. Toss rope.

    CAUTION: Hold end of rope securely.

RESOURCES:

Ohio Fire Service Training Manual, 1980

NFPA Booklet 1001, 1974

FIREFIGHTER TRAINING SHEET

TASK 12-14 (Continued):

LEARNING ACTIVITIES:

1. Read and study the information on pages 250-251 of the Ohio Fire Service Training Manual until you feel you understand the process.
2. Review the professional qualifications on coiling and throwing a rope in NFPA Booklet 1001, page 28, 46 and 47 and make alist of the applicable qualifications.
3. Attend a demonstration on coiling and throwing a rope.
4. Obtain a rope and coiling equipment and practice coiling and throwing a rope until you are proficient.

EVALUATION:

Given a rope with loop in one end and rope coiler, coil rope. Upon dropping coil from height greater than length of rope, coil must unwind smoothly to end of rope.

FIREFIGHTER TRAINING SHEET

UNIT: Sprinklers

TASK 13-1: Describe the purpose and operation of an automatic sprinkler system and explain how the automatic sprinker head opens and releases water

NFPA: 3-13.3 THE FIREFIGHTER, WHEN GIVEN A SPRINKLER HEAD IN SERVICEABLE USE, SHALL DEMONSTRATE KNOWLEDGE OF HOW THE AUTOMATIC SPRINKLER HEAD OPENS AND RELEASES WATER.

TOOLS AND EQUIPMENT:

1. Serviceable automatic sprinkler head

LEARNING STEPS:

1. Read resources.
2. Describe purpose of sprinkler systems.
3. Describe operation of sprinkler systems.
4. Explain sprinkler head operation.

RESOURCES:

IFSTA 200

Essentials of Fire Fighting, 1st edition

Ohio Fire Service Training, 1980

LEARNING ACTIVITIES:

1. Read Chapter 16 of Essentials of Fire Fighting (IFSTA 200) pages 343-351 and/or Chapter 6 of Ohio Fire Service Training, pages 119-140 to get an overview of sprinkler systems.
2. Write out in your own words the basic purpose and operation of automatic sprinkler systems.
3. Based on your reading and assistance as needed from a qualified firefighter, figure out how the automatic sprinkler head opens and releases water. Be able to explain the process to someone who is not familiar with it.

FIREFIGHTER TRAINING SHEET

TASK 13-1 (Continued):

EVALUATION:

1. Describe in writing, in your own words, the basic purpose and operation of an automatic sprinkler system.
2. Explain how an automatic sprinkler head opens and releases water so that a person not familiar with it will understand.

FIREFIGHTER TRAINING SHEET

UNIT: Sprinklers

TASK 13-2: Identify the fire department sprinkler connection and water motor alarm, connect apparatus to sprinkler system, and effect a temporary stop of water flow

NFPA: 3-13.1 THE FIREFIGHTER SHALL IDENTIFY THE FIRE DEPARTMENT SPRINKLER CONNECTION, AND WATER MOTOR ALARM.

3-13.4 THE FIREFIGHTER, WHEN GIVEN THE NECESSARY EQUIPMENT, SHALL EFFECT A TEMPORARY STOP OF THE FLOW OF WATER FROM A SPRINKLER HEAD.

TOOLS AND EQUIPMENT:

1. Siamese connection
2. Fire apparatus

LEARNING STEPS:

1. Identify and locate Siamese and water motor alarm.
2. Lay line from pumper to Siamese.
3. Remove female protector cap.
4. Check gaskets and connections for damaged threads.
5. Check for foreign matter.
6. Connect hose to sprinkler Siamese.
7. Open discharge on pumper slowly while adjusting throttle to maintain 150 lbs. engine pressure.
8. Secure system.
9. Check out riser control valve.

RESOURCES:

IFSTA 200

Essentials of Fire Fighting

Ohio Fire Service Training, 1980

FIREFIGHTER TRAINING SHEET

TASK 13-2 (Continued):

LEARNING ACTIVITIES:

1. Review pages 348-351 in Essentials of Fire Fighting (IFSTA 200) and/or pages 125-126 of Ohio Fire Service Training.

2. With a qualified firefighter, locate and identify a fire department sprinkler connection and water motor alarm, connect the fire apparatus to the sprinkler system and check out the riser control valve.

3. Become familiar with the location of fire department sprinkler connections in your area.

EVALUATION:

Given sprinkler system and apparatus, identify parts and connect apparatus to sprinkler system. Pressure lost as each head kicks in must be compensated for. Check the riser control valve to see that it closes and opens smoothly and securely.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Alarm and Communications

TASK 14-1: Receive emergency information from a caller

NFPA: 3-14.1 THE FIREFIGHTER SHALL DEMONSTRATE KNOWLEDGE OF THE CORRECT PROCEDURE FOR A CITIZEN TO REPORT A FIRE, OR OTHER EMERGENCIES.

LEARNING STEPS:

1. Record the type of emergency.
2. Record caller's name and number of telephone being used.
3. Get the location of the fire: street, house/apartment number, prominent landmarks such as the business across the street, etc.
4. Ask if anyone is trapped or injured.
5. Ask if there are any other potential hazards such as chemical spills, etc.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a discussion/demonstration of receiving emergency information using a two-way hookup (supplied by the telephone company).
2. Working in groups of two or three and using a written, hypothetical situation that depicts a fire or other emergency, practice correctly receiving emergency information.

EVALUATION:

From the information you receive over the telephone you will proceed to the exact location without any wrong moves.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Alarm and Communications

TASK 14-2: Transmit and receive with radio using 10-dash system

NFPA: 3-14.9 THE FIREFIGHTER SHALL IDENTIFY AND EXPLAIN ALL FIRE ALARM SIGNALS, INCLUDING MULTIPLE ALARM, AND SPECIAL SIGNALS, GOVERNING THE MOVEMENTS OF FIRE APPARATUS; AND THE ACTION TO BE TAKEN UPON THE RECEIPT OF EACH SIGNAL.

TOOLS AND EQUIPMENT:

1. 10-dash transmitter/receiver

LEARNING STEPS:

1. Call dispatcher:
    a. Adjust squelch for best signal;
    b. Select appropriate channel;
    c. Depress button;
    d. Give unit number, signal and location;
    e. Report incident or purpose; and
    f. Notify dispatcher upon completion of call.
2. Receive assignment:
    a. Depress button;
    b. Respond with unit number and acknowledge assignment;
    c. Notify dispatcher of arrival with unit number and signal; and
    d. Notify dispatcher upon completion of assignment.

RESOURCES:

Chief Officer

Manufacturer's Operations Manual

LEARNING ACTIVITIES:

1. Read operator's manual and do "dry run" on 10-dash.
2. Attend a discussion/demonstration by chief officer.

FIREFIGHTER TRAINING SHEET

TASK 14-2 (Continued):

LEARNING ACTIVITIES (Continued):

3. Check with your instructor who will arrange for you to receive and transmit with a radio using the 10-dash system for two purposes:

   (1) call-in to dispatcher; and
   (2) receive assignment.

EVALUATION:

Given a 10-dash transmitter/receiver and a hypothetical situation being told to you by another person, receive information and send instructions using 10-dash transmitter/receiver.

1. Call to dispatcher must include:

   a. Unit number, location and signal given;
   b. Incident reported; and
   c. Dispatcher notified upon completion of call.

2. Receiving assignment must include:

   a. Responded with unit number, signal and acknowledged assignment;
   b. Reported arrival at assignment with unit number and signal; and
   c. Dispatcher notified upon completion of assignment.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Alarm and Communications

TASK 14-3: Reset fire alarm

NFPA: NO SPECIFIC STANDARD

TOOLS AND EQUIPMENT:

1. Screwdriver
2. Pliers, etc.

LEARNING STEPS:

1. Check zone panel for red light.
2. Locate alarm box and proceed to location.
3. Reset alarm box.
4. Check zone panel for green light.

RESOURCES:

Chief Officer

LEARNING ACTIVITIES:

1. Attend a discussion given by the chief officer.
2. You will be given a fire alarm to practice resetting.

EVALUATION:

Given tools and equipment, reset fire alarm. Position on zone panel must show green.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Alarm and Communications

TASK 14-4: Identify location of alarm from an ADT readout

NFPA: 3-14.4 THE FIREFIGHTER SHALL DEMONSTRATE STATION WATCH DUTIES AS ASSIGNED BY THE AUTHORITY HAVING JURISDICTION.

TOOLS AND EQUIPMENT:

1. Master list of automatic detection transmitter (ADT) codes
2. List of locations of the corresponding alarms
3. An unidentified ADT readout

LEARNING ACTIVITIES:

1. Attend a discussion/demonstration by a chief officer on locating an alarm from an ADT readout.

EVALUATION:

Given a master list of the automatic detection transmitter (ADT) codes, the location of the corresponding alarms, and an unidentified ADT readout, match the "unknown alarm location" code with the master reference list.

1. The location of the activated alarm corresponds to the location listed adjacent to the "matched" master list code. Figure 1 shows the code tapes which indicate the location of the building that is on fire.
2. Without error, state the location of the alarm which initiated the readout.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Alarm and Communications

ILLUSTRATION SHEET 14-4-1

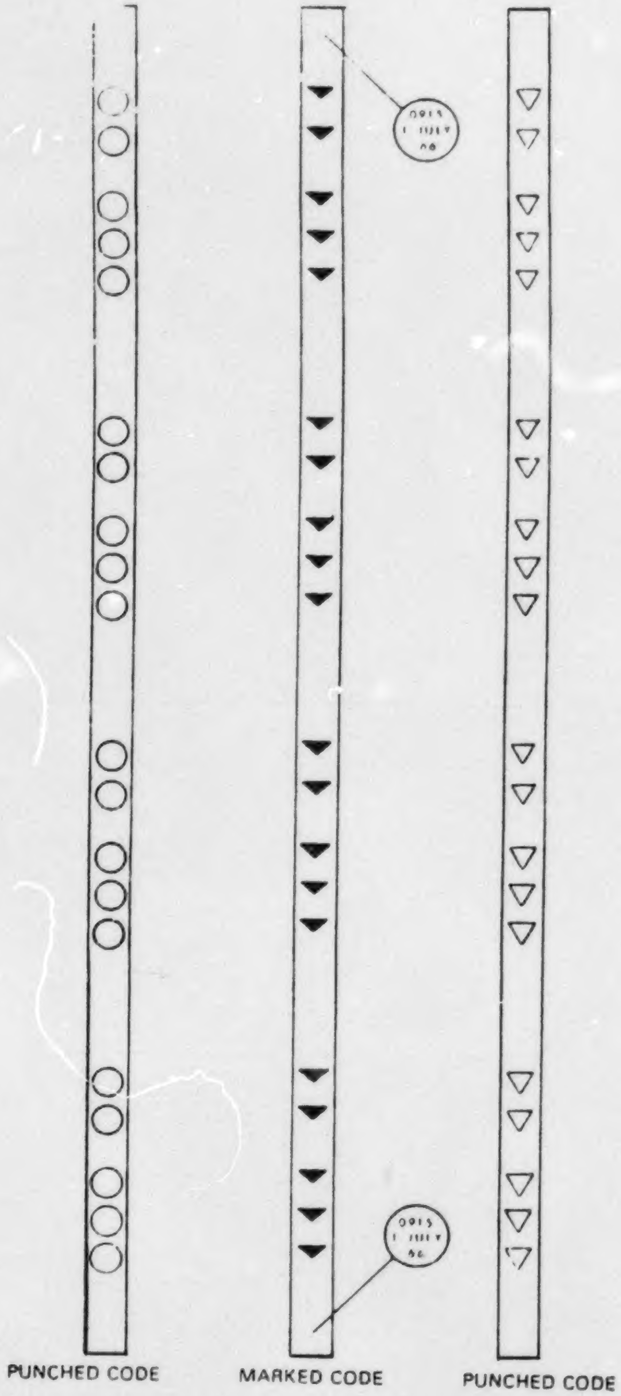
0915
1 JULY
68
0915
1 JULY
68
PUNCHED CODE
MARKED CODE
PUNCHED CODE

Figure 1. Coded paper tapes.

FIREFIGHTER TRAINING SHEET

UNIT: Fire Alarm and Communications

TASK 14-5: Receive and send communication by two-way radio

NFPA: 3-14.7 THE FIREFIGHTER SHALL DEMONSTRATE PRESCRIBED FIRE DEPARTMENT RADIO PROCEDURES.

TOOLS AND EQUIPMENT:

1. Two-way radio

LEARNING STEPS:

1. Identify communication needs:
    a. Nature of illness or injury;
    b. Number involved;
    c. Traffic and road conditions;
    d. Back up assistance, such as, medical, law enforcement, or fire station;
    e. Time of arrival/departure; and
    f. Location of call.
2. Insure radio is in operating condition.

    NOTE: If radio is inoperative, choose best alternative method of communication such as telephone or messenger.
3. Transmit message according to FCC regulations.
4. Obtain acknowledgment from receiving station:
    a. Dispatch station or corresponding unit; and
    b. Supportive agency, such as, law enforcement or fire station.
5. Record communications:
    a. Radio log book; and
    b. Tape recording.

RESOURCES:

Chief Officer

FIREFIGHTER TRAINING SHEET

TASK 14-5 (Continued):

LEARNING ACTIVITIES:

1. Attend a demonstration/lecture by your chief officer.
2. Under the supervision of a chief officer, practice receiving and sending by two-way radio.

EVALUATION:

Given communication to be transmitted and a two-way radio, send message and receive answer.

1. Communication must convey all pertinent information.
2. Communication must be acknowledged by receiving station.
3. Communication must adhere to FCC regulations.

FIREFIGHTER TRAINING SHEET

UNIT: The Chemistry of Fire

TASK 16-1: Describe the characteristics of combustion and its direct relationship to proper extinguishment

NFPA: NO SPECIFIC STANDARD

LEARNING STEPS:

1. Define terms.
2. List the four things necessary to support combustion.
3. Describe the four sides of the tetrahedron of fire.
4. Explain how the tetrahedron of fire is related to fire extinguishment.

RESOURCES:

Ohio Fire Service Training

LEARNING ACTIVITIES:

1. Read pages 27-36 and 38-39 of Ohio Fire Service Training.
2. Attend instruction lecture on combustion characteristics and its direct relationship to fire extinguishment.
3. Prepare a graphic that shows the relationship of tetrahedron of fire to fire extinguishment.
4. Set up and conduct a demonstration showing the principle of extinguishment.

EVALUATION:

1. Define combustion.
2. Define ignition temperature.
3. Define flash point.
4. Define spontaneous ignition.

FIREFIGHTER TRAINING SHEET

TASK 16-1 (Continued):

EVALUATION (Continued):

5. List four things necessary to support combustion.
6. Explain the components of the tetrahedron of fire.
7. Explain how the tetrahedron of fire is related to extinguishment.

FIREFIGHTER TRAINING SHEET

UNIT: The Chemistry of Fire

TASK 16-2: Describe the explosive properties of flammable gases, liquids, and dust

NFPA: NO SPECIFIC STANDARD

LEARNING STEPS:

1. Define terms.
2. List and give examples of four principle kinds of explosives.
3. Describe how an explosion accurs with gases, liquids and dust.

RESOURCES:

Ohio Fire Service Training

LEARNING ACTIVITIES:

1. Read pages 36-37 of Ohio Fire Service Training.
2. Attend instruction lecture and discussion on the explosive properties of gases, liquids and dust.

EVALUATION:

1. Define explosion.
2. Name various industries where a dust explosion could occur.
3. List four principle types of explosion.
4. Explain the process by which an explosion develops with gases, liquids and dust.